SONY

HDCAM ENCODER BOARD

# HKPF-E270

HDVS

ISR Interactive Status Reporting

MAINTENANCE MANUAL

1st Edition

Serial No. 10001 and Higher

## ⚠警告

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お客様が，このマニュアルに記載された設置や保守，点検，修理など行うと感電や火災，人身事故につながることがあります。
危険をさけるため，サービストレーニングを受けた技術者のみご使用ください。

## ⚠WARNING

This manual is intended for qualified service personnel only.
To reduce the risk of electric shock, fire or injury, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

## ⚠WARNUNG

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Alle Wartungsarbeiten dürfen nur von qualifiziertem Fachpersonal ausgeführt werden. Um die Gefahr eines elektrischen Schlages, Feuergefahr und Verletzungen zu vermeiden, sind bei Wartungsarbeiten strikt die Angaben in der Anleitung zu befolgen. Andere als die angegeben Wartungsarbeiten dürfen nur von Personen ausgeführt werden, die eine spezielle Befähigung dazu besitzen.

## ⚠AVERTISSEMENT

Ce manual est destiné uniquement aux personnes compétentes en charge de l’entretien. Afin de réduire les risques de décharge électrique, d’incendie ou de blessure n’effectuer que les réparations indiquées dans le mode d’emploi à moins d’être qualifié pour en effectuer d’autres. Pour toute réparation faire appel à une personne compétente uniquement.

# Table of Contents

## Manual Structure


Purpose of this manual ..... 3 (E)
Contents ..... 3 (E)
Related manual ..... 3 (E)


## 1. Attachment


1-1. Supplied Accessories ..... 1-1 (E)
1-2. Board Attachment ..... 1-1 (E)
1-3. Name and Functions of Connectors ..... 1-4 (E)
1-3-1. Name and Functions of Connectors ..... 1-4 (E)
1-3-2. Connectors and Cables for Connection ..... 1-5 (E)
1-4. Name and Functions of Switches and LEDs ..... 1-6 (E)


## 2. Service Overview


2-1. Notes on Repair Parts ..... 2-1 (E)
2-2. Replacement of IC Links ..... 2-1 (E)
2-3. Tools ..... 2-1 (E)
2-4. Notes during Replacement of CPU ..... 2-1 (E)
2-5. Notes during Replacement of Board and Parts on Board ..... 2-2 (E)
2-6. Circuit Description ..... 2-2 (E)
2-7. ISR (Interactive Status Reporting) ..... 2-3 (E)


## 3. Test Mode (Self-diagnosis)

## 4. Electrical Alignment


4-1. Equipment Required ..... 4-1 (E)
4-2. Preparation ..... 4-1 (E)
4-3. Free Run 74 MHz Frequency Adjustment (59.94) ..... 4-2 (E)
4-4. Free Run 27 MHz Frequency Adjustment ..... 4-2 (E)


## 5. Spare Parts


5-1. Electrical Parts List ..... 5-1
5-2. Optional Fixtures ..... 5-11

## 6. Semiconductor Pin Assignments

## 7. Block Diagram

Overall ..... 7-1

## 8. Schematic Diagrams

DIF-77 ..... 8-1
DPR-115 ..... 8-3

## 9. Board Layouts

DIF-77 ..... 9-1
DPR-115 ..... 9-2

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# Manual Structure

## Purpose of this manual

This manual is the maintenance manual of HDCAM ENCODER BOARD HKPF-E270.
This manual is intended for use by service engineers and is provided the information required for the attachment, the maintenance information and the information that premise the service based the component parts.

## Contents

This manual is organized by the following sections.

**Section 1 Attachment**
This section describes the board attachment, the connectors and cables for connection, and the name and functions of switches and LEDs.

**Section 2 Service Overview**
This section describes the notes during replacements of the IC link, of the CPU and of the board and parts on board, and the ISR (Interactive Status Reporting).

**Section 3 Test Mode (Self-diagnosis)**
This section describes the test mode (self-diagnosis).

**Section 4 Electrical Alignment**
This section describes the general information for electrical adjustment and the adjustment procedures of this unit.

**Section 5 Spare Parts**
This section describes the spare parts.

**Section 6 Semiconductor Pin Assignments**
This section describes the pin assignments of semiconductor.

**Section 7 Block Diagram**
This section describes the overall block diagram.

**Section 8 Schematic Diagrams**
This section describes the schematic diagrams for mounted circuit boards.

**Section 9 Board Layouts**
This section describes the board layouts for mounted circuit boards.

## Related manual

The following manual is prepared for HKPF-E270.

- **Operation Manual (Supplied with HKPF-E270)**
  This manual describes the notes on the operating, and the locations and functions of parts and controls of HKPF-E270.

# Section 1
# Attachment

## 1-1. Supplied Accessories

The supplied accessories of HKPF-E270 are as follows.

- Label : 1
- Maintenance manual : 1
- Operation manual : 1

## 1-2. Board Attachment

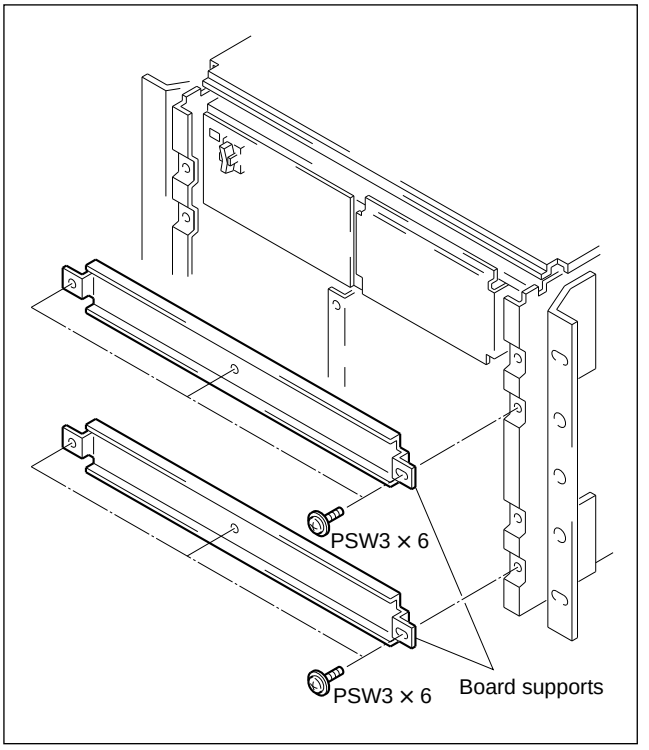
- This section is described how to attach the board in PFV-HD300. For how to attach it in models other than PFV-HD300, refer to the manual supplied for each model.
- Insert the board in any blank slot of PFV-HD300.

**Note**

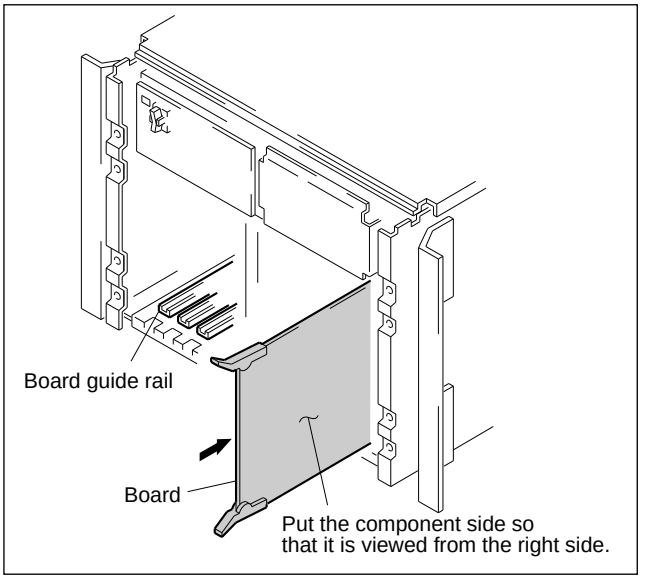
Do not insert the board in the slot No. 14.

### Front panel

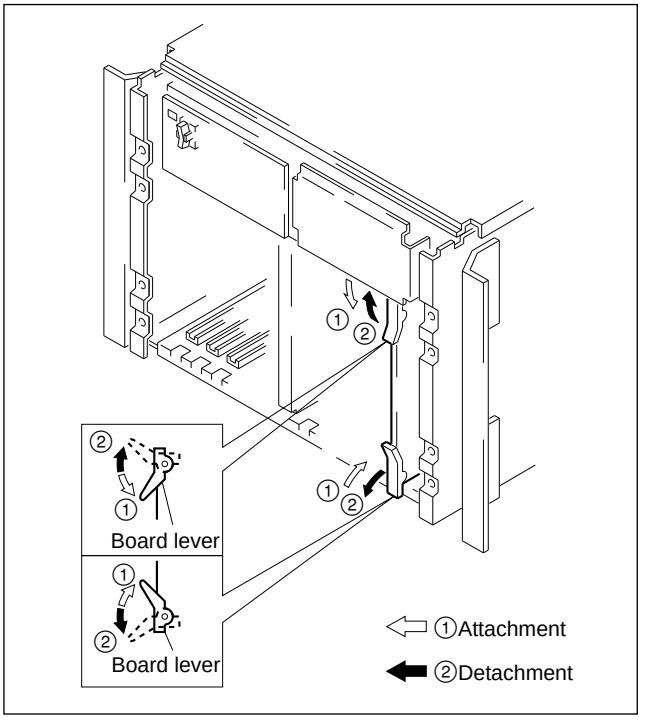
1. Loosen the four screws (with stopper) and detach the front panel.
2. Unscrew the six screws and detach the board supports.




3. Insert the board along the board guide rail.




4. Insert the board in the slot as far as it will go and close the two board levers in the directions of arrows ①.




5. Put the supplied label onto the board lever.
6. Attach the board supports.
7. Attach the front panel.

**Note**

When detaching the board, pull out the board toward you while pushing the two board levers in the directions of arrows ②.

## Rear panel

**Notes**

1. Save the removed blank panel for later use.
2. Be sure to attach the IFB shield and their parts attached to both sides of the blank panel, since they are the parts that use spurious emission.
3. In order to maintain the cooling effect for PFV-HD300, do not leave the slot open. Be sure to attach the blank panel to an empty slot.

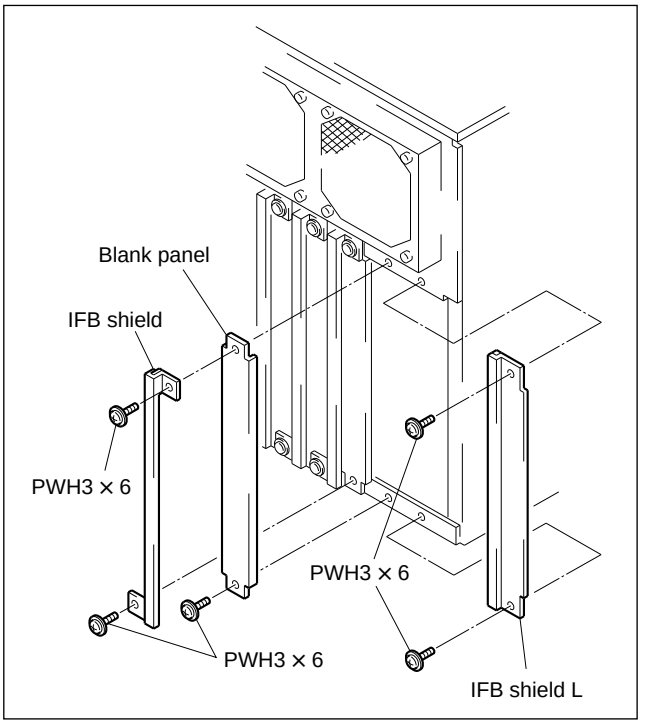
The connector panel attachment methods are divided into three types depending on the slot number.

<Type 1> For slot No. 1
<Type 2> For slot Nos. 2 to 6, 9 to 14
<Type 3> For slot Nos. 7, 8

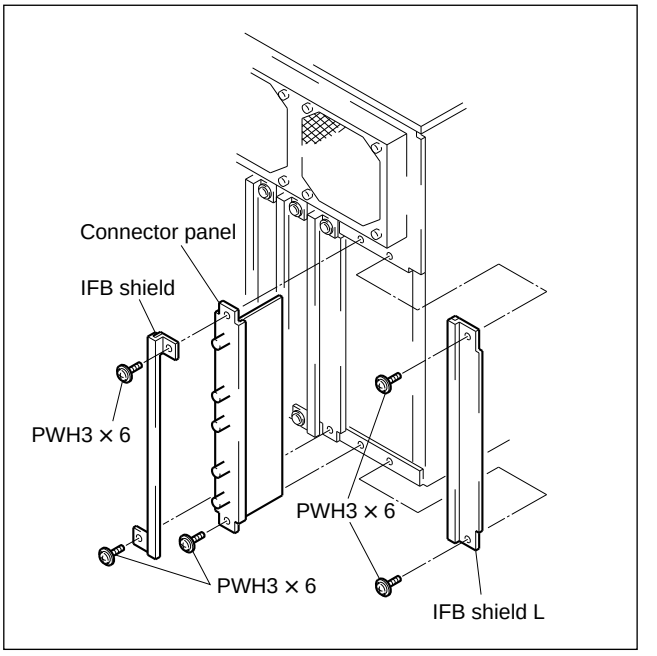
The attachment methods for each type are explained below.

### <Type 1>

1. Remove the five screws, and remove the IFB shield L, IFB shield and blank panel.

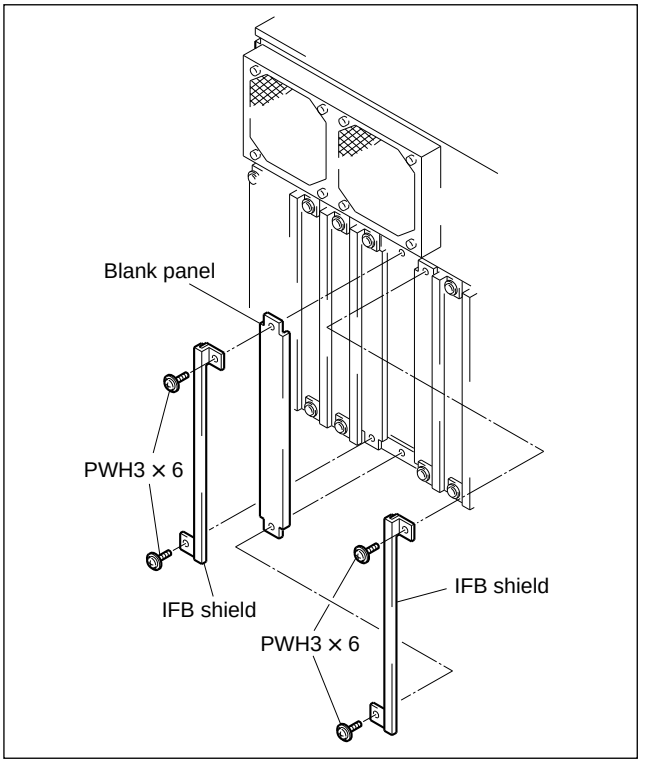



2. Insert the connector panel.
3. Fasten the IFB shield L, IFB shield and connector panel to the unit using the five screws that are removed in step 1.

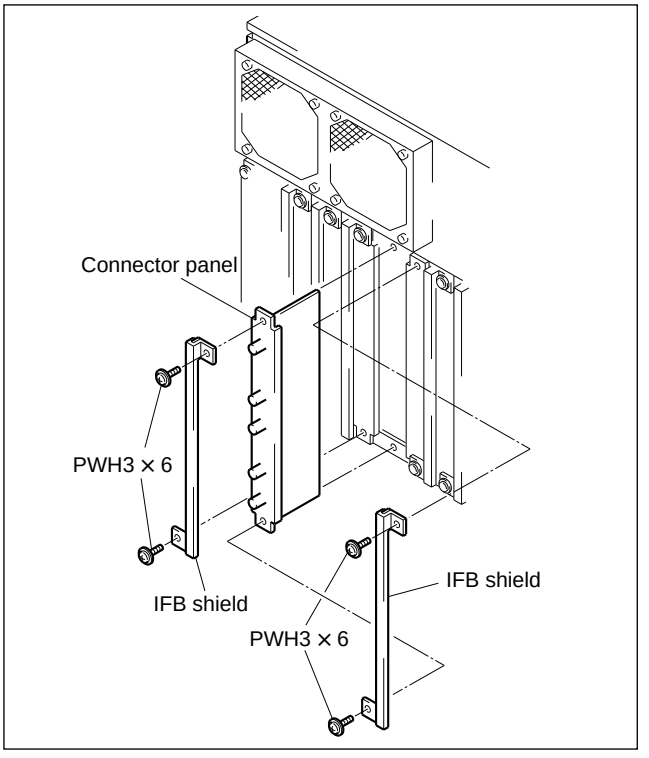


**<Type 2>**

1. Remove the four screws, and remove the two IFB shields and blank panel.

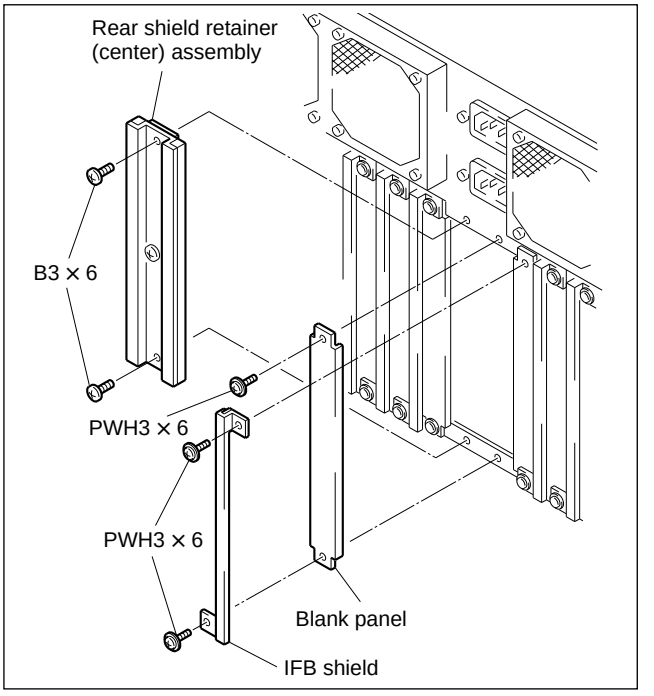



2. Insert the connector panel.
3. Fasten the two IFB shields and connector panel to the unit using the four screws that are removed in step 1.

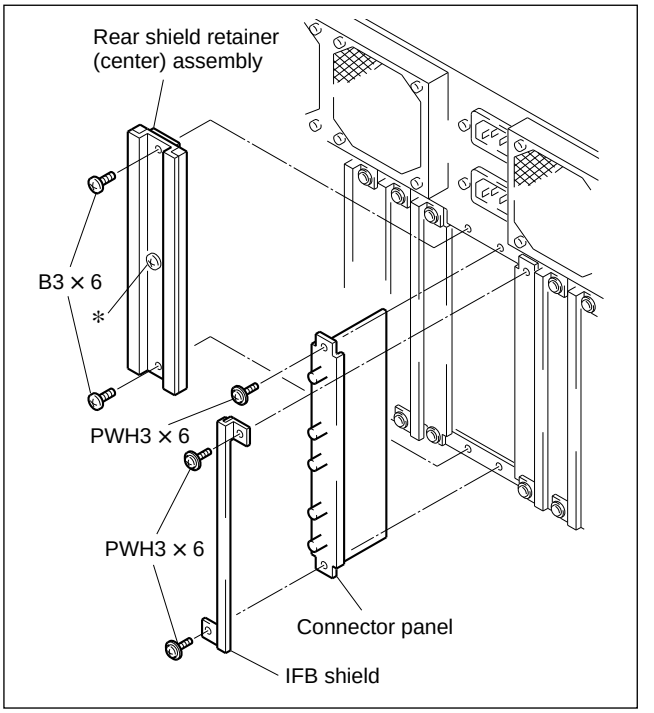



**<Type 3>**

1. Remove the five screws, and remove the IFB shield, rear shield retainer (center) assembly and blank panel.



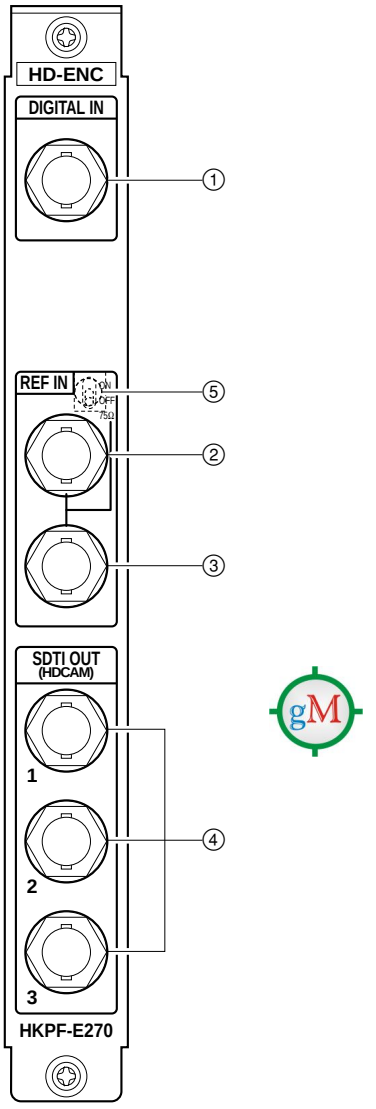

2. Insert the connector panel.
3. Fasten the IFB shield, rear shield retainer (center) assembly and connector panel to the unit using the five screws that are removed in step 1.




* Do not remove a center screw on the rear shield retainer (center) assembly.

# 1-3. Name and Functions of Connectors

## 1-3-1. Name and Functions of Connectors




① DIGITAL IN connector (BNC type)
This connector is received a HD SDI [1)] (conforming to BTA S-004B) signal.

② REF IN connector (BNC type)
This connector is received an 1125 sync (conforming to BTA S-001B) or 525 black burst signal for external sync.

③ Loop Through Out connector (BNC type)
This connector is provided a loop through sync signal connected to the REF IN connector.

④ SDTI [2)] (HDCAM) OUT 1 to 3 connectors (BNC types)
These connectors are provided SDTI (HDCAM) signal as HD SDI signal converted to the HDCAM stream.

⑤ 75 Ω Termination switch
Turn ON/OFF the 75 Ω termination of sync signal connected to the REF IN connector.

## 1-3-2. Connectors and Cables for Connection

Use the connector and the cable below or the equivalent at the tip when cables are connected to each connector on the connector panel during connection and service.

**Note**

Use a 5C-FB coaxial cable when the cable for DIGITAL IN exceeds 60 m in length.

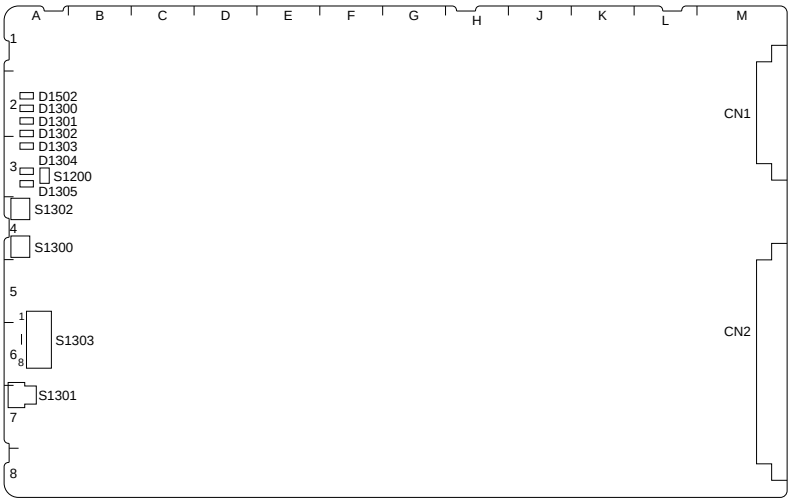
| Connector on HKPF-E270 side | | Adaptive connector/cable | |
|---|---|---|---|
| **Panel display** | **Name** | **Name** | **Sony part No.** |
| DIGITAL IN | BNC (75 Ω) | BNC (75 Ω)<br>5C-2V coaxial cable | 1-569-370-12<br>— |
| SDTI [2] (HDCAM) OUT 1 to 3 | BNC (75 Ω) | BNC (75 Ω)<br>5C-2V coaxial cable | 1-569-370-12<br>— |
| REF IN | BNC (75 Ω) | BNC (75 Ω)<br>5C-2V coaxial cable | 1-569-370-12<br>— |
| (Loop Through Out) | BNC (75 Ω) | BNC (75Ω)<br>5C-2V coaxial cable | 1-569-370-12<br>— |

1) SDI: Serial Digital Interface

2) SDTI: Serial Data Transport Interface
SDTI is defined as SMPTE 305M.

# 1-4. Name and Functions of Switches and LEDs

### DPR-115 board




### D1502 (green) : +5V/−5V power display lamp

Lights : Normal
Lights off : Abnormal

### D1300 (green) : Active line display lamp

Lights : 1035 lines
Lights off : 1080 lines

### D1301 (green) : Field frequency display lamp

Lights : Lock to reference at 59.94 Hz.
Lights off : Lock to reference at 60.00 Hz or not locked to the reference.

### D1302 (green) : Video exist (input display) lamp

Lights : Input signal is present.
Lights off : No input signal

### D1303 (green) : Audio exist (input display) lamp

Lights : Input signal is present.
Lights off : No input signal

### D1304 (red) : CRCC error display lamp

Lights : Error is present.
Lights off : No error

### D1305 (red) : Sync phase error display lamp

Lights : The sync phase difference between the input video signal and the external sync signal is out of specified value (±300 µs) when the external sync is selected.
Lights off : When there is no error or when the INPUT is selected as sync signal.

### S1302 : Sync signal selection switch

INPUT : Outputs signals synchronize with the HD SDI input signal.
EXT 1125: Outputs signals synchronize with external 1125 sync signal.
EXT 525 : Outputs signals synchronize with external 525 sync signal.

### S1300 : System delay selection switch

REF LOCK : Delays the sync signal selected by the sync signal selection switch (S1302) by 2 frames.
MIN DELAY: Delays the HD SDI input signal by 1.2 frames.

### S1303-1 : Test mode DIP switch

Set this switch to lower (ON) during self-diagnosis of board operation, and then turn ON the power switch.
Lower (ON) : During test mode
Upper (OFF) : Normal mode
Factory setting : Upper (OFF)

### S1303-2 and 3 : Test SG selection DIP switches

| S1303-2 | S1303-3 | Output signal |
|---|---|---|
| Upper (OFF) | Upper (OFF) | Normal mode |
| Lower (ON) | Upper (OFF) | Color bars |
| Upper (OFF) | Lower (ON) | RAMP |
| Lower (ON) | Lower (ON) | Normal mode |

Factory settings : Both Uppers (OFF)

### S1303-4 : P-S converter reset DIP switch

Set this switch to lower (ON) during free run 27 MHz adjustment.
Upper (OFF) : Normal mode
Lower (ON) : During adjustment
Factory setting : Upper (OFF)

### S1303-5 to S1303-8 : Option DIP switches

These switches are not normally used.
Factory settings : All Uppers (OFF)

### S1301 : Audio delay select switch

Taking the rotary switch 7 as the center (same phase), used to change the audio signal phase against video signal as follows.
Factory setting : 7
Position of switch

| | |
|---|---|
| 0 | 2.33 ms advance against output video signal phase. |
| • | |
| • | |
| 6 | 0.33 ms advance against output video signal phase. |
| 7 | In phase with output video signal. |
| 8 | 0.33 ms delay against output video signal phase. |
| • | |
| • | |
| F | 2.67 ms delay against output video signal phase. |

### S1200 : System reset switch

Initialize the whole system of this unit. It is not normally used.

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# Section 2
# Service Overview

## 2-1. Notes on Repair Parts

### 1. Safety Related Components Warning

Components marked ⚠ are critical to safe operation. Therefore, specified parts should be used in the case of replacement.

### 2. Standardization of Parts

Some repair parts supplied by Sony differ from those used for the unit. These are because of parts commonality and improvement.
Parts list has the present standardized repair parts.

### 3. Stock of Parts

Parts marked with “o” at SP(Supply Code) column of the spare parts list may not be stocked. Therefore, the delivery date will be delayed.

### 4. Units Representation

The following represented units are changed or omitted in writing.

| Units | | Representation |
|---|---|---|
| Capacitance | μF | uF |
| Inductance | μH | uH |
| Resistance | Ω | Abbreviation |
| Temperature | ˚C | XXX-DEG-C |

## 2-2. Replacement of IC Links

HKPF-E270 mounts the two IC links. When abnormality occurs in equipment and when an overcurrent flows, the IC link is burned. Use the component specified below as the IC link to be replaced.
Before replacing the IC link, eliminate a foreign substance that causes a short-circuit.

DPR-115 board : F1500 (M-2) and F1501 (M-2)
Part name : LINK, IC
Part No. : ⚠ 1-532-686-21

**Note**

The alphanumeric character in parentheses indicates the address on the board.

**WARNING**

The IC link is critical to safe operation. Do not replace the IC link with ones other than specified. This may cause a fire and electric shock. Be sure to use the specified IC link.

## 2-3. Tools

| Name | Part No. | Description |
|---|---|---|
| Extension board, EX-331 | J-6185-960-A | Used for extension of the DPR-115 board. |
| Extraction tool, IC (CT-2101) | J-6035-070-A | Used for extraction of IC1204 on the DPR-115 board. |

## 2-4. Notes during Replacement of CPU

IC1204 on the DPR-115 board is a CPU incorporating ROM. In this IC, the program name is described at the end of the part name. The program name at the end is changed when upgraded. Be careful not to use the parts that are not programmed.

## 2-5. Notes during Replacement of Board and Parts on Board

The DPR-115 and DIF-77 boards mount a high-frequency circuit (1.5 GHz). It is impossible to be replaced any electric parts in the high-frequency circuit block.
When the high-frequency circuit parts on the DPR-115 are defective, please buy HKPF-E270's unit.
When the high-frequency circuit parts on the DIF-77 board are defective, replace the whole DIF-77 board.

**Note**

The equalizing adjustment for the input signal of DIGITAL IN connector on the DIF-77 board is carried out at the factory, never turn adjustment volumes of R55 and R63 (mounted on the small size mounted circuit board in the shield case).

## 2-6. Circuit Description

### DIF-77 board (Input side)

The input circuits of the DIF-77 board consist of a cable equalizer and a clock extraction circuit.The HD SDI signal input to CN9 undergoes automatic equalization (cable compensation) for losses for cables up to 100 m (5C-FB) by the cable equalizer (CP1).
The equalized serial data is differentiated as binary data by the comparator inside CP1 and is sent to the clock extraction IC in the next stage.
The clock signal is extracted by IC4 directly from the serial data converted back to binary data. The data signal is latched using the clock signal extracted and output at the PECL level.
The clock and data signals output from IC4 are converted to the ECL level using IC3. After phase adjustment, these signals are sent to the DPR-115 board (Processor Board) in the later stage as a pair.
In the external sync signal input circuit, the 1125 and 525 external sync signals input from CN100 are level-set by the 75 Ω termination ON/OFF switch, driven at 75 Ω again by IC7 later, and sent to the DPR-115 board.

### DIF-77 board (Output side)

The serial data input from the DPR-115 board is distributed by IC8 at the entrance and supplied to the cable driver composed of Q1, Q2, Q3, and Q4.
The cable driver is composed of two pairs of differential drivers.
Two signals (inverted and non-inverted signals) are provided from one differential driver and three SDTI (HDCAM) output signals are obtained altogether.

### DPR-115 board

The serial data and clock from the DIF-77 board are input to IC101 (serial- to-parallel converter), converted to 74 MHz rate 20 bits parallel data, and sent to IC100.
IC100 is a format decoder. Various timing signals (F/V/H) are extracted from the video timing standard codes (EAV/SAV) received, and sent to IC200.
In IC100, audio data is also extracted, and digital audio signal multiplexed-transmitted to HD SDI are separated and sent to the audio delay memory.
IC200 is a rate conversion filter. It converts 74 MHz rate 4:2:2 video signals to 46 MHz rate 3:1:1 and sends it to IC300 and IC400.
IC300 and IC400 are bit rate reduction encoders whose signals are output to IC502.
IC502 is a rate conversion filter. It converts the 46 MHz compression data stream input to 74 MHz compression data stream, and sends it to IC702.
IC702 is a rate converter converting between the 1125 system and 525 system. It converts 74 MHz compression data stream to 27 MHz compression data stream, and sends it to IC700.
The audio signal is multiplexed to the video signal by IC702.
IC700 is a 27 MHz parallel-to-serial converter which converts 27 MHz parallel data to 270 MHz SDTI signals.
IC901 is a timing generator which generates various timing signals (F and H) and clock signals (74 MHz, 46 MHz, 27 MHz and 48 kHz) required for other LSIs.

IC1401 is a field buffer incorporating a 256 Kwords ×8 bits memory. It delays the audio signal for the time it takes to perform video signal processing, and sends the signal to IC702.
IC1204 is a CPU (HD647180). It performs initialization of devices and communication with the ISR interface board (BKPF-500).
It also performs interface with the toggle switches, DIP switch, and LEDs via IC1300 (CXD1095BQ).

The DPR-115 board incorporates switching regulator circuits +1.2 V, +2 V, +2.5 V, +3.3 V, and −2 V. These voltages required as power for ASIC are made by DC-DC converting the ±5 V supplied from the PFV's mother board.

## 2-7. ISR (Interactive Status Reporting)

When HKPF-E270 is attached in the digital video interface unit (PFV-HD300/HD50A) together with an optional ISR interface board (BKPF-500), the messages below are sent from HKPF-E270 to monitor the operation state of HKPF-E270.

### Status messages (Warning, error and other information)

| Message | Description |
|---|---|
| NO INPUT | Indicates that no HD SDI signal is provided to the DIGITAL IN connector. |
| AUDIO ERROR | Indicates that the audio signal is not multiplexed to the input HD SDI signal. |
| Exist Audio | Indicates the multiplexed audio channel |
| Error Audio | Indicates the audio channel with error |
| Field Frequency 59.94 Hz | Indicates the field frequency of the HD SDI input signal is 59.94 Hz.<br>When this message is not displayed, the field frequency is 60 Hz. |
| Active Line 1035 | Indicates that the number of effective scanning lines in the HD SDI input signal are 1035 lines. When this message is not displayed, the number of effective scanning lines are 1080 lines. |
| CRCC Error | Indicates that a CRCC error occurred. |
| Sync Phase Error | Indicates that a sync phase error occurred. |

### Setup messages

| Message | Status | Description |
|---|---|---|
| System delay select SW | REF LOCK<br>MIN DELAY | Indicates the setting state of system delay selection switch S1300. |
| REF SELECT SW | INPUT LOCK<br>EXT LOCK 1125<br>EXT LOCK 525 | Indicates the setting state of sync signal selection switch S1302. |
| Audio Delay SW | −112<br>•<br>•<br>•<br>−16<br>0<br>+16<br>•<br>•<br>•<br>+128 | Indicates the setting states of audio delay select switch (S1301).<br>(The status shifts ±16 sample each.) |

# Section 3
# Test Mode (Self-diagnosis)

HKPF-E270 is carried out the self-diagnosis of a defective circuit block in the test mode.

1. Statting of test mode

Select DIP switch S1303-1 to the lower (ON) position and turn ON the power switch of PFV-HD300/HD50A.
Or select DIP switch S1303-1 to the lower (ON) position and press system reset switch S1200.

2. Lighting confirmation of display lamp

All LEDs (from D1300 to D1305 and D1502) light for one second. D1502 does not light off.

NG

Inspection point

Abnormality is found in the LED that is lighted off, its peripheral pattern, and soldering.

OK

3. Confirmation of circuit block

LEDs (from D1300 to D1305) blink simultaneously.

NG

Inspection points

① When D1300 lights:
Abnormality is found in IC100, its peripheral pattern, and soldering.
② When D1301 lights:
Abnormality is found in IC200, its peripheral pattern, and soldering.
③ When D1302 lights:
Abnormality is found in IC300 and IC400, these peripheral patterns, and solderings.
④ When D1303 lights:
Abnormality is found in IC502, its peripheral pattern, and soldering.
⑤ When D1304 lights:
Abnormality is found in IC702, its peripheral pattern, and soldering.

OK

Set DIP switch S1303-1 to the upper (OFF) position, and turn OFF/ON the power switch of PFV-HD300/HD50A or press the system reset switch (S1200).

# Section 4
# Electrical Alignment

## 4-1. Equipment Required

### Measuring Equipment

- Oscilloscope : Tektronix 2465B or equivalent
- Frequency counter : Advantest TR5821AK or equivalent

### Peripheral Equipment

- Sony digital video interface unit (PFV-HD300 or PFV-HD50A)

### Tool

- Extension board, EX-331 (Sony part No. J-6185-960-A)

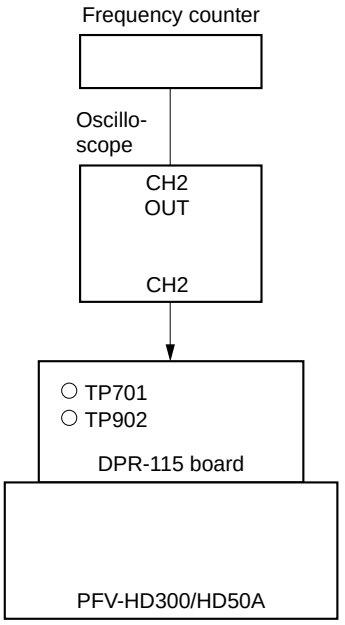
## 4-2. Preparation

### 1. Notes on Adjustment

(1) Extend the DPR-115 board using the extension board EX-331.

(2) Before adjustments, be sure to warm up the unit for ten minutes or more.

### 2. Connection



## 4-3. Free Run 74 MHz Frequency Adjustment (59.94)

When IC1103, IC1104 or X1101 is replaced, be sure to perform this adjustment.

### Preparations

- Connect the equipment. (Refer to Section 4-2.)
- No signal input to REF IN and DIGITAL IN connectors.
- Connect the oscilloscope to TP902/DPR-115 board.

### Adjustment Procedures

Test point : TP902/DPR-115 board (G-6)
Adjustment point : ⊘RV1101/DPR-115 board (H-6)
Specification : 74.1758 ± 0.0001 MHz

## 4-4. Free Run 27 MHz Frequency Adjustment

When IC700 is replaced, be sure to perform this adjustment.

### Preparations

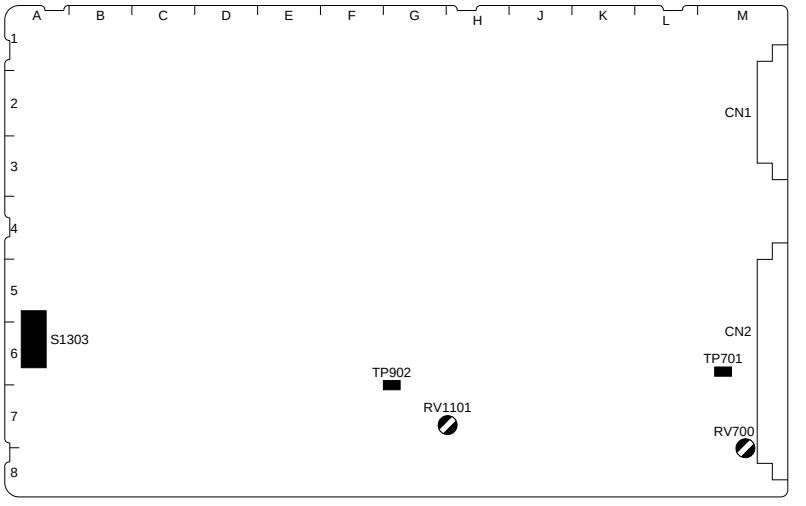
- Connect the equipment. (Refer to Section 4-2.)
- No signal input to REF IN and DIGITAL IN connectors.
- Turn S1303-4/DPR-115 board (A-6) to lower (ON) position.
- Connect the oscilloscope to TP701/DPR-115 board.

### Adjustment Procedures

Test point : TP701/DPR-115 board (M-6)
Adjustment point : ⊘RV700/DPR-115 board (M-7)
Specification : 27.00 ± 0.05 MHz

### Setting after Adjustment

Be sure to return S1303-4/DPR-115 board to upper (OFF) position.




DPR-115 BOARD (A side)

# Section 5
# Spare Parts

## 5-1. Electrical Parts List

DIF-77 BOARD

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | A-8318-756-A | o | MOUNTED C. BOARD, DIF-77 COMPL |
| 1pc | 3-608-261-01 | o | COVER, SHIELD CASE (1) |
| 2pcs | 7-621-259-18 | s | SCREW +P 2.6X3 |
| 2pcs | 7-682-947-01 | s | SCREW +PSW 3x6 |
| 2pcs | 7-685-547-14 | s | SCREW +BTP 3x10 TYPE2 N-S |
| CN1 | 1-563-341-11 | s | CONNECTOR, DIN 96P, FEMALE |
| CN5 | 1-764-273-11 | s | CONNECTOR, BNC, FEMALE |
| CN6 | 1-764-273-11 | s | CONNECTOR, BNC, FEMALE |
| CN7 | 1-764-273-11 | s | CONNECTOR, BNC, FEMALE |
| CN9 | 1-764-273-11 | s | CONNECTOR, BNC, FEMALE |
| CN100 | 1-764-273-11 | s | CONNECTOR, BNC, FEMALE |
| CN101 | 1-764-273-11 | s | CONNECTOR, BNC, FEMAL |

DPR-115 BOARD

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 2pcs | 2-182-909-01 | o | LEVER, PC BOARD |
| 1pc | 3-192-294-01 | o | SHEET (SDI), RADIATION |
| 1pc | 3-192-294-11 | o | SHEET (SDI), RADIATION |
| 1pc | 3-608-265-01 | o | COVER, SHIELD CASE (B) |
| 1pc | 3-617-701-01 | o | FRONT PANEL |
| 4pcs | 7-621-772-08 | s | SCREW +B 2X3 |
| 2pcs | 7-626-320-11 | s | PIN, SPRING 3x8 |
| 2pcs | 7-682-902-11 | s | SCREW +PWH 2.6x5 |
| 4pcs | 7-682-947-01 | s | SCREW +PSW 3x6 |
| C200 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C201 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C202 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C203 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C204 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C205 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C206 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C207 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C208 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C209 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C210 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C211 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C212 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C213 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C214 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C215 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C216 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C217 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C218 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C219 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C220 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C221 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C222 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C300 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C301 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C302 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C303 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C304 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C305 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C306 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C307 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C308 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C309 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C310 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C311 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C312 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C313 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C314 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C315 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C316 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C317 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C318 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C319 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C320 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C321 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C322 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C323 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C324 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C325 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C326 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |

(DPR-115 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| C327 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C328 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C329 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C330 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C331 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C332 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C333 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C334 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C335 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C336 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C337 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C338 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C339 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C340 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C341 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C342 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C400 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C401 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C402 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C403 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C404 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C405 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C406 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C407 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C408 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C409 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C410 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C411 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C412 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C413 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C414 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C415 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C416 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C417 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C418 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C419 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C420 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C421 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C422 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C423 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C424 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C425 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C426 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C427 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C428 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C429 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C430 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C431 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C432 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C433 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C434 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C435 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C436 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C437 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C438 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C439 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C440 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C441 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C442 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |

(DPR-115 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| C500 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C501 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C502 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C503 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C504 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C505 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C506 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C507 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C508 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C509 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C510 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C511 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C512 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C513 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C514 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C515 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C516 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C517 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C518 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C519 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C520 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C521 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C522 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C523 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C524 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C525 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C526 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C527 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C528 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C529 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C530 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C531 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C532 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C533 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C534 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C535 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C536 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C700 | 1-107-826-91 | s | CERAMIC 0.1uF 10% 16V |
| C701 | 1-104-851-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C702 | 1-107-826-91 | s | CERAMIC 0.1uF 10% 16V |
| C703 | 1-104-851-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C704 | 1-107-826-91 | s | CERAMIC 0.1uF 10% 16V |
| C705 | 1-104-851-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C706 | 1-107-826-91 | s | CERAMIC 0.1uF 10% 16V |
| C707 | 1-104-851-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C708 | 1-104-851-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C709 | 1-107-826-91 | s | CERAMIC 0.1uF 10% 16V |
| C710 | 1-107-826-91 | s | CERAMIC 0.1uF 10% 16V |
| C711 | 1-104-851-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C712 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C713 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C714 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C715 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C716 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C717 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C718 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C719 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C720 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C721 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |

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| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| C722 | 1-104-851-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C723 | 1-107-826-91 | s | CERAMIC 0.1uF 10% 16V |
| C724 | 1-107-826-91 | s | CERAMIC 0.1uF 10% 16V |
| C725 | 1-104-851-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C726 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C727 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C728 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C729 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C730 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C731 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C732 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C733 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C734 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C735 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C736 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C737 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C738 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C739 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C740 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C741 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C742 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C743 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C744 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C745 | 1-162-923-11 | s | CERAMIC, CHIP 47PF 5% 50V |
| C746 | 1-164-227-11 | s | CERAMIC, CHIP 0.022uF 10% 25V |
| C747 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C748 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C749 | 1-164-227-11 | s | CERAMIC, CHIP 0.022uF 10% 25V |
| C750 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C751 | 1-162-920-11 | s | CERAMIC, CHIP 27PF 5% 50V |
| C752 | 1-107-826-91 | s | CERAMIC 0.1uF 10% 16V |
| C753 | 1-107-826-91 | s | CERAMIC 0.1uF 10% 16V |
| C756 | 1-107-826-91 | s | CERAMIC 0.1uF 10% 16V |
| C757 | 1-107-826-91 | s | CERAMIC 0.1uF 10% 16V |
| C758 | 1-107-826-91 | s | CERAMIC 0.1uF 10% 16V |
| C760 | 1-109-894-11 | s | ELECT 33uF 20% 10V |
| C761 | 1-109-894-11 | s | ELECT 33uF 20% 10V |
| C762 | 1-162-920-11 | s | CERAMIC, CHIP 27PF 5% 50V |
| C763 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C764 | 1-107-826-91 | s | CERAMIC 0.1uF 10% 16V |
| C765 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C766 | 1-107-826-91 | s | CERAMIC 0.1uF 10% 16V |
| C800 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C801 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C802 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C803 | 1-107-823-11 | s | CERAMIC 0.47uF 10% 16V |
| C804 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C805 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C806 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C807 | 1-163-235-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C808 | 1-163-253-11 | s | CERAMIC, CHIP 120PF 5% 50V |
| C809 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C810 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C811 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C812 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C813 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C814 | 1-163-245-11 | s | CERAMIC, CHIP 56PF 5% 50V |
| C815 | 1-163-253-11 | s | CERAMIC, CHIP 120PF 5% 50V |
| C816 | 1-163-253-11 | s | CERAMIC, CHIP 120PF 5% 50V |

(DPR-115 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| C817 | 1-163-253-11 | s | CERAMIC, CHIP 120PF 5% 50V |
| C818 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C819 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C820 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C821 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C822 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C823 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C824 | 1-163-259-91 | s | CERAMIC 220PF 5% 50V |
| C825 | 1-163-259-91 | s | CERAMIC 220PF 5% 50V |
| C826 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C827 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C828 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C829 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C830 | 1-163-037-11 | s | CERAMIC, CHIP 0.022uF 10% 25V |
| C831 | 1-163-235-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C832 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C833 | 1-163-133-00 | s | CERAMIC, CHIP 470PF 5% 50V |
| C834 | 1-104-559-11 | s | FILM 0.047uF 5% 16V |
| C835 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C836 | 1-163-239-11 | s | CERAMIC, CHIP 33PF 5% 50V |
| C837 | 1-163-259-91 | s | CERAMIC 220PF 5% 50V |
| C838 | 1-162-928-11 | s | CERAMIC, CHIP 120PF 5% 50V |
| C840 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C841 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C842 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C847 | 1-109-894-11 | s | ELECT 33uF 20% 10V |
| C850 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C853 | 1-109-894-11 | s | ELECT 33uF 20% 10V |
| C854 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C857 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C858 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C900 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C901 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C902 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C903 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C904 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C905 | 1-127-564-11 | s | ALUMN SOLID 150uF 20% 6.3V |
| C906 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C907 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C908 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C909 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C910 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C911 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C912 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C913 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1000 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1002 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1003 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1004 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1005 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1100 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1101 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1102 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C1103 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1104 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1105 | 1-163-275-11 | s | CERAMIC, CHIP 0.001uF 5% 50V |
| C1106 | 1-115-467-11 | s | CERAMIC 0.22uF 10% 10V |
| C1107 | 1-109-894-11 | s | ELECT 33uF 20% 10V |
| C1108 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |

(DPR-115 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| C1109 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1110 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1111 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C1112 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1113 | 1-109-894-11 | s | ELECT 33uF 20% 10V |
| C1114 | 1-109-894-11 | s | ELECT 33uF 20% 10V |
| C1115 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1116 | 1-104-551-11 | s | FILM, CHIP 0.01uF 5% 16V |
| C1117 | 1-104-563-11 | s | FILM 0.1uF 5% 16V |
| C1118 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1119 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C1120 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1121 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1122 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1123 | 1-104-551-11 | s | FILM, CHIP 0.01uF 5% 16V |
| C1124 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1125 | 1-104-563-11 | s | FILM 0.1uF 5% 16V |
| C1200 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1201 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C1202 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1203 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1204 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1205 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1206 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1207 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1208 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1209 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1210 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C1211 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1212 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1213 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1300 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1301 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1302 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1303 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1400 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1401 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1402 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1403 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1404 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1405 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1406 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1407 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1408 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1409 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1410 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1411 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1412 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1413 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1414 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1415 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1500 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C1501 | 1-128-416-11 | s | ELECT, CHIP 100uF 20% 16V |
| C1502 | 1-128-416-11 | s | ELECT, CHIP 100uF 20% 16V |
| C1503 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1504 | 1-163-251-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C1505 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1506 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1507 | 1-128-416-11 | s | ELECT, CHIP 100uF 20% 16V |

(DPR-115 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| C1508 | 1-126-398-11 | s | ELECT, CHIP 4.7uF 20% 35V |
| C1509 | 1-163-037-11 | s | CERAMIC, CHIP 0.022uF 10% 25V |
| C1510 | 1-126-398-11 | s | ELECT, CHIP 4.7uF 20% 35V |
| C1511 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1512 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1513 | 1-163-037-11 | s | CERAMIC, CHIP 0.022uF 10% 25V |
| C1514 | 1-113-578-11 | s | ALUMN SOLID 68uF 20% 10V |
| C1515 | 1-127-516-11 | s | ALUMN SOLID 220uF 20% 10V |
| C1516 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1517 | 1-163-037-11 | s | CERAMIC, CHIP 0.022uF 10% 25V |
| C1518 | 1-163-257-11 | s | CERAMIC, CHIP 180PF 5% 50V |
| C1519 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1520 | 1-127-517-11 | s | ALMUN SOLID 150uF 20% 16V |
| C1521 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1522 | 1-128-416-11 | s | ELECT, CHIP 100uF 20% 16V |
| C1523 | 1-128-416-11 | s | ELECT, CHIP 100uF 20% 16V |
| C1524 | 1-163-251-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C1525 | 1-126-398-11 | s | ELECT, CHIP 4.7uF 20% 35V |
| C1526 | 1-163-037-11 | s | CERAMIC, CHIP 0.022uF 10% 25V |
| C1527 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1528 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1529 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C1530 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1532 | 1-163-037-11 | s | CERAMIC, CHIP 0.022uF 10% 25V |
| C1533 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1534 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1535 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1536 | 1-127-517-11 | s | ALMUN SOLID 150uF 20% 16V |
| C1537 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1538 | 1-127-516-11 | s | ALUMN SOLID 220uF 20% 10V |
| C1539 | 1-127-519-11 | s | ALUMN SOLID 100uF 20% 20V |
| C1540 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C1541 | 1-163-037-11 | s | CERAMIC, CHIP 0.022uF 10% 25V |
| C1542 | 1-163-251-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C1544 | 1-126-398-11 | s | ELECT, CHIP 4.7uF 20% 35V |
| C1545 | 1-163-037-11 | s | CERAMIC, CHIP 0.022uF 10% 25V |
| C1546 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C1547 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1548 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1549 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1550 | 1-164-218-11 | s | CERAMIC, CHIP 180PF 50V |
| C1551 | 1-163-037-11 | s | CERAMIC, CHIP 0.022uF 10% 25V |
| C1552 | 1-127-516-11 | s | ALUMN SOLID 220uF 20% 10V |
| C1553 | 1-127-516-11 | s | ALUMN SOLID 220uF 20% 10V |
| C1554 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1555 | 1-163-037-11 | s | CERAMIC, CHIP 0.022uF 10% 25V |
| C1557 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1558 | 1-127-517-11 | s | ALMUN SOLID 150uF 20% 16V |
| C1559 | 1-163-037-11 | s | CERAMIC, CHIP 0.022uF 10% 25V |
| C1560 | 1-163-251-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C1561 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C1562 | 1-126-398-11 | s | ELECT, CHIP 4.7uF 20% 35V |
| C1563 | 1-163-037-11 | s | CERAMIC, CHIP 0.022uF 10% 25V |
| C1564 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C1565 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1566 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1567 | 1-163-037-11 | s | CERAMIC, CHIP 0.022uF 10% 25V |
| C1568 | 1-113-578-11 | s | ALUMN SOLID 68uF 20% 10V |
| C1569 | 1-127-516-11 | s | ALUMN SOLID 220uF 20% 10V |

(DPR-115 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| C1570 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1571 | 1-163-037-11 | s | CERAMIC, CHIP 0.022uF 10% 25V |
| C1572 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1573 | 1-127-517-11 | s | ALMUN SOLID 150uF 20% 16V |
| C1600 | 1-163-037-11 | s | CERAMIC, CHIP 0.022uF 10% 25V |
| C1601 | 1-163-251-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C1602 | 1-126-398-11 | s | ELECT, CHIP 4.7uF 20% 35V |
| C1603 | 1-163-037-11 | s | CERAMIC, CHIP 0.022uF 10% 25V |
| C1604 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1605 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1606 | 1-163-037-11 | s | CERAMIC, CHIP 0.022uF 10% 25V |
| C1607 | 1-113-578-11 | s | ALUMN SOLID 68uF 20% 10V |
| C1608 | 1-127-516-11 | s | ALUMN SOLID 220uF 20% 10V |
| C1609 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1610 | 1-163-037-11 | s | CERAMIC, CHIP 0.022uF 10% 25V |
| C1611 | 1-163-038-91 | s | CERAMIC, CHIP 0.1uF 25V |
| C1612 | 1-127-517-11 | s | ALMUN SOLID 150uF 20% 16V |
| C1613 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C2600 | 1-127-564-11 | s | CAP, ELECT (SOLID) 150MF |
| CN1 | 1-569-465-11 | o | CONNECTOR, DIN 48P, MALE |
| CN2 | 1-568-144-11 | o | CONNECTOR, DIN 96P, MALE |
| CN3 | 1-506-469-11 | s | CONNECTOR 4P, MALE |
| CN5 | 1-566-763-11 | o | CONNECTOR 8P, MAEL |
| CN6 | 1-506-471-11 | o | CONNECTOR 6P, MALE |
| D700 | 8-719-800-76 | s | DIODE 1SS226 |
| D1300 | 8-719-974-41 | s | LED HLMP-6500-010, GRN |
| D1301 | 8-719-974-41 | s | LED HLMP-6500-010, GRN |
| D1302 | 8-719-974-41 | s | LED HLMP-6500-010, GRN |
| D1303 | 8-719-974-41 | s | LED HLMP-6500-010, GRN |
| D1304 | 8-719-974-39 | s | LED HLMP-6300-010, RED |
| D1305 | 8-719-974-39 | s | LED HLMP-6300-010, RED |
| D1500 | 8-719-023-53 | s | DIODE EA30QS04-F |
| D1501 | 8-719-975-43 | s | DIODE RB420D |
| D1502 | 8-719-974-41 | s | LED HLMP-6500-010, GRN |
| D1503 | 8-719-975-43 | s | DIODE RB420D |
| D1504 | 8-719-023-53 | s | DIODE EA30QS04-F |
| D1505 | 8-719-975-43 | s | DIODE RB420D |
| D1506 | 8-719-975-43 | s | DIODE RB420D |
| D1507 | 8-719-975-43 | s | DIODE RB420D |
| D1508 | 8-719-975-43 | s | DIODE RB420D |
| D1509 | 8-719-975-43 | s | DIODE RB420D |
| D1510 | 8-719-975-43 | s | DIODE RB420D |
| D1600 | 8-719-975-43 | s | DIODE RB420D |
| D1601 | 8-719-975-43 | s | DIODE RB420D |
| F1500 | ⚠ 1-532-686-21 | s | LINK, IC 2.7A |
| F1501 | ⚠ 1-532-686-21 | s | LINK, IC 2.7A |
| FB700 | 1-543-644-11 | s | FERRITE 0UH |
| FB701 | 1-543-644-11 | s | FERRITE 0UH |
| IC200 | 8-759-492-32 | s | IC CXD9014BR |
| IC301 | 8-759-567-34 | s | IC KM416S1020CT-G10T |
| IC302 | 8-759-567-34 | s | IC KM416S1020CT-G10T |
| IC401 | 8-759-567-34 | s | IC KM416S1020CT-G10T |
| IC402 | 8-759-567-34 | s | IC KM416S1020CT-G10T |
| IC500 | 8-759-389-48 | s | IC 74LCX16374MTDX |
| IC501 | 8-759-389-48 | s | IC 74LCX16374MTDX |
| IC502 | 8-759-492-32 | s | IC CXD9014BR |
| IC503 | 8-759-567-34 | s | IC KM416S1020CT-G10T |
| IC700 | 8-752-078-32 | s | IC CXB1341R |

(DPR-115 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| IC701 | 8-759-589-77 | o | IC EPM7160-CHECKSUM-V1.0 |
| IC703 | 8-759-295-09 | s | IC TLC2932IPW |
| IC704 | 8-759-030-16 | s | IC MC34182M |
| IC705 | 8-759-398-82 | s | IC 74LCX00SJX |
| IC706 | 8-759-295-09 | s | IC TLC2932IPW |
| IC707 | 8-759-386-27 | s | IC 74LCX04MTCX |
| IC800 | 8-759-252-21 | s | IC EL2244CS |
| IC801 | 8-759-987-27 | s | IC LM1881M |
| IC802 | 8-759-978-96 | s | IC SN75207BNS |
| IC803 | 8-759-523-81 | s | IC TC74VHC08FT(EL) |
| IC804 | 8-759-523-95 | s | IC TC74VHC74FT(EL) |
| IC805 | 8-759-528-99 | s | IC TC74VHC221AFT(EL) |
| IC806 | 8-759-528-99 | s | IC TC74VHC221AFT(EL) |
| IC807 | 8-759-030-16 | s | IC MC34182M |
| IC808 | 8-759-702-08 | s | IC NJM360M |
| IC809 | 8-759-987-27 | s | IC LM1881M |
| IC810 | 8-759-528-99 | s | IC TC74VHC221AFT(EL) |
| IC900 | 8-759-386-22 | s | IC 74LCX04SJX |
| IC901 | 8-759-473-94 | s | IC CXD9013AR |
| IC902 | 8-759-386-22 | s | IC 74LCX04SJX |
| IC903 | 8-759-386-22 | s | IC 74LCX04SJX |
| IC1000 | 8-759-456-26 | s | IC 74LCX541MTCX |
| IC1003 | 8-759-386-26 | s | IC 74LCX574MTCX |
| IC1004 | 8-759-389-26 | s | IC 74LCX08MTCX |
| IC1005 | 8-759-456-26 | s | IC 74LCX541MTCX |
| IC1100 | 8-759-030-16 | s | IC MC34182M |
| IC1101 | 8-759-491-45 | s | IC TC74VHCT00FT(EL) |
| IC1102 | 8-759-389-33 | s | IC 74LCX244MTCX |
| IC1103 | 8-759-011-65 | s | IC MC74HC4053F |
| IC1104 | 8-759-929-26 | s | IC TL431CPS |
| IC1105 | 8-759-030-16 | s | IC MC34182M |
| IC1106 | 8-759-389-33 | s | IC 74LCX244MTCX |
| IC1200 | 8-759-524-04 | s | IC TC74VHC125FT(EL) |
| IC1201 | 8-759-186-75 | s | IC TC74VHC540F |
| IC1202 | 8-759-031-84 | s | IC TC7S04F |
| IC1203 | 8-759-234-20 | s | IC TC7S08F |
| IC1204 | 8-759-597-47 | o | IC HD647180-HKPF-E270-V1.00 |
| IC1205 | 8-759-386-32 | s | IC 74LCX245SJX |
| IC1206 | 8-759-031-84 | s | IC TC7S04F |
| IC1207 | 8-759-989-04 | s | IC 74F74SJ |
| IC1208 | 8-759-186-75 | s | IC TC74VHC540F |
| IC1209 | 8-759-989-91 | s | IC TL7705ACPS |
| IC1210 | 8-759-471-98 | s | IC 74VHCT08MTCX |
| IC1211 | 8-759-472-59 | s | IC 74VHC541MTCX |
| IC1300 | 8-752-381-84 | s | IC CXD1095BQ |
| IC1301 | 8-759-926-76 | s | IC SN74HC540ANS |
| IC1302 | 8-759-472-06 | s | IC 74VHCT74MTCX |
| IC1400 | 8-759-389-33 | s | IC 74LCX244MTCX |
| IC1401 | 8-759-167-20 | s | IC UPD42280GU-30 |
| IC1402 | 8-759-597-46 | o | IC XC95108-E-AD-DEC-V1.0 |
| IC1403 | 8-759-456-25 | s | IC 74LCX541SJX |
| IC1404 | 8-759-389-26 | s | IC 74LCX08MTCX |
| IC1405 | 8-759-389-26 | s | IC 74LCX08MTCX |
| IC1406 | 8-759-389-26 | s | IC 74LCX08MTCX |
| IC1500 | 8-729-046-99 | s | TRANSISTOR SI4562DY |
| IC1501 | 8-759-937-36 | s | IC TL1451ACNS |
| IC1502 | 8-729-046-99 | s | TRANSISTOR SI4562DY |
| IC1503 | 8-729-046-99 | s | TRANSISTOR SI4562DY |
| IC1504 | 8-759-937-36 | s | IC TL1451ACNS |

(DPR-115 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| IC1505 | 8-759-371-78 | s | IC LT1431CS8-E1 |
| IC1506 | 8-729-046-99 | s | TRANSISTOR SI4562DY |
| IC1600 | 8-729-046-99 | s | TRANSISTOR SI4562DY |
| IC1601 | 8-759-937-36 | s | IC TL1451ACNS |
| IS1204 | 1-251-269-11 | o | SOCKET, IC 84P |
| L700 | 1-424-642-11 | s | COIL, CHOKE |
| L701 | 1-424-642-11 | s | COIL, CHOKE |
| L800 | 1-410-377-31 | s | INDUCTOR, CHIP 4.7uH |
| L801 | 1-410-393-11 | s | INDUCTOR, CHIP 100uH |
| L802 | 1-424-642-11 | s | COIL, CHOKE |
| L805 | 1-424-642-11 | s | COIL, CHOKE |
| L900 | 1-424-642-11 | s | COIL, CHOKE |
| L1100 | 1-424-642-11 | s | COIL, CHOKE |
| L1101 | 1-424-642-11 | s | COIL, CHOKE |
| L1500 | 1-421-459-21 | s | COIL, CHOKE |
| L1501 | 1-421-459-21 | s | COIL, CHOKE |
| L1502 | 1-409-721-11 | s | COIL, CHOKE 42uH |
| L1503 | 1-421-459-21 | s | COIL, CHOKE |
| L1504 | 1-421-459-21 | s | COIL, CHOKE |
| L1505 | 1-421-459-21 | s | COIL, CHOKE |
| L1506 | 1-411-323-11 | s | COIL, CHOKE 74uH |
| L1507 | 1-421-459-21 | s | COIL, CHOKE |
| L1508 | 1-421-459-21 | s | COIL, CHOKE |
| L1509 | 1-403-684-11 | s | INDUCTOR 56UH |
| L1510 | 1-409-721-11 | s | COIL, CHOKE 42uH |
| L1511 | 1-421-459-21 | s | COIL, CHOKE |
| L1600 | 1-409-721-11 | s | COIL, CHOKE 42uH |
| L1601 | 1-421-459-21 | s | COIL, CHOKE |
| Q800 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q801 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q802 | 8-729-143-07 | s | TRANSISTOR 2SA1610-YY33 |
| Q803 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q804 | 8-729-143-07 | s | TRANSISTOR 2SA1610-YY33 |
| Q805 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q806 | 8-729-143-07 | s | TRANSISTOR 2SA1610-YY33 |
| Q1100 | 8-729-028-73 | s | TRANSISTOR DTA114EUA-T106 |
| Q1101 | 8-729-028-73 | s | TRANSISTOR DTA114EUA-T106 |
| Q1500 | 8-729-028-91 | s | TRANSISTOR DTA144EUA-T106 |
| Q1501 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q1502 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q1503 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q1504 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q1505 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q1506 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q1507 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q1508 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q1509 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q1510 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q1511 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q1512 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q1513 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q1514 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q1515 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q1516 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q1517 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q1518 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q1600 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q1601 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |

(DPR-115 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| Q1602 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q1603 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| R200 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R201 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R203 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R204 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R205 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R206 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R207 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R208 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R209 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R210 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R212 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R213 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R214 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R215 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R216 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R217 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R218 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R222 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R223 | 1-218-718-11 | s | METAL 12K 0.50% 1/16W |
| R224 | 1-218-732-11 | s | METAL 47K 0.50% 1/16W |
| R300 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R301 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R302 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R303 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R304 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R305 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R306 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R307 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R308 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R309 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R310 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R311 | 1-218-718-11 | s | METAL 12K 0.50% 1/16W |
| R312 | 1-218-708-11 | s | METAL, CHIP 4.7K 0.50% 1/16W |
| R313 | 1-218-675-11 | s | METAL, CHIP 200 0.50% 1/16W |
| R314 | 1-218-675-11 | s | METAL, CHIP 200 0.50% 1/16W |
| R315 | 1-218-732-11 | s | METAL 47K 0.50% 1/16W |
| R400 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R401 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R402 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R403 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R404 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R405 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R406 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R407 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R408 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R409 | 1-218-718-11 | s | METAL 12K 0.50% 1/16W |
| R410 | 1-218-675-11 | s | METAL, CHIP 200 0.50% 1/16W |
| R411 | 1-218-708-11 | s | METAL, CHIP 4.7K 0.50% 1/16W |
| R412 | 1-218-675-11 | s | METAL, CHIP 200 0.50% 1/16W |
| R413 | 1-218-732-11 | s | METAL 47K 0.50% 1/16W |
| R500 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R501 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R502 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R503 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R504 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R505 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |

(DPR-115 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R506 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R507 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R508 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R509 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R510 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R511 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R512 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R513 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R514 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R515 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R516 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R517 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R518 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R519 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R520 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R521 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R522 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R523 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R524 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R525 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R526 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R527 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R528 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R529 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R530 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R531 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R532 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R533 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R534 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R535 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R536 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R537 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R538 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R539 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R540 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R541 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R542 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R543 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R544 | 1-218-692-11 | s | METAL 1K 0.50% 1/16W |
| R545 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R546 | 1-218-718-11 | s | METAL 12K 0.50% 1/16W |
| R547 | 1-218-675-11 | s | METAL, CHIP 200 0.50% 1/16W |
| R548 | 1-218-675-11 | s | METAL, CHIP 200 0.50% 1/16W |
| R549 | 1-218-732-11 | s | METAL 47K 0.50% 1/16W |
| R700 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R701 | 1-218-723-91 | s | METAL, CHIP 20K 0.50% 1/16W |
| R702 | 1-218-684-11 | s | METAL 470 0.50% 1/16W |
| R703 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R704 | 1-218-684-11 | s | METAL 470 0.50% 1/16W |
| R705 | 1-218-684-11 | s | METAL 470 0.50% 1/16W |
| R706 | 1-218-684-11 | s | METAL 470 0.50% 1/16W |
| R707 | 1-216-648-11 | s | METAL, CHIP 750 0.5% 1/10W |
| R708 | 1-218-684-11 | s | METAL 470 0.50% 1/16W |
| R709 | 1-218-684-11 | s | METAL 470 0.50% 1/16W |
| R710 | 1-218-685-11 | s | METAL 510 0.50% 1/16W |
| R711 | 1-218-684-11 | s | METAL 470 0.50% 1/16W |
| R712 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R713 | 1-218-684-11 | s | METAL 470 0.50% 1/16W |
| R714 | 1-218-648-11 | s | METAL 15 0.50% 1/16W |

(DPR-115 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R715 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R716 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R717 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R718 | 1-218-684-11 | s | METAL 470 0.50% 1/16W |
| R719 | 1-218-648-11 | s | METAL 15 0.50% 1/16W |
| R720 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R721 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R723 | 1-218-684-11 | s | METAL 470 0.50% 1/16W |
| R724 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R725 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R726 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R727 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R728 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R729 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R730 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R731 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R732 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R733 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R734 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R735 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R737 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R738 | 1-216-668-11 | s | METAL, CHIP 5.1K 0.5% 1/10W |
| R739 | 1-218-699-11 | s | METAL 2K 0.50% 1/16W |
| R740 | 1-218-699-11 | s | METAL 2K 0.50% 1/16W |
| R741 | 1-218-692-11 | s | METAL 1K 0.50% 1/16W |
| R742 | 1-216-686-11 | s | METAL, CHIP 30K 0.5% 1/10W |
| R743 | 1-218-684-11 | s | METAL 470 0.50% 1/16W |
| R744 | 1-218-699-11 | s | METAL 2K 0.50% 1/16W |
| R745 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R747 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R748 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R749 | 1-218-709-11 | s | METAL 5.1K 0.50% 1/16W |
| R750 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R751 | 1-218-692-11 | s | METAL 1K 0.50% 1/16W |
| R752 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R753 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R754 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R756 | 1-218-660-91 | s | METAL 47 0.50% 1/16W |
| R757 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R758 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R759 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R760 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R761 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R762 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R763 | 1-218-709-11 | s | METAL 5.1K 0.50% 1/16W |
| R764 | 1-218-692-11 | s | METAL 1K 0.50% 1/16W |
| R765 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R766 | 1-216-857-11 | s | METAL, CHIP 1M 5% 1/16W |
| R800 | 1-216-133-00 | s | METAL, CHIP 3.3M 5% 1/10W |
| R801 | 1-216-651-11 | s | METAL, CHIP 1K 0.5% 1/10W |
| R802 | 1-216-636-11 | s | METAL, CHIP 240 0.5% 1/10W |
| R803 | 1-216-627-11 | s | METAL, CHIP 100 0.5% 1/10W |
| R804 | 1-216-660-11 | s | METAL, CHIP 2.4K 0.5% 1/10W |
| R805 | 1-216-651-11 | s | METAL, CHIP 1K 0.5% 1/10W |
| R806 | 1-216-659-11 | s | METAL, CHIP 2.2K 0.5% 1/10W |
| R807 | 1-216-627-11 | s | METAL, CHIP 100 0.5% 1/10W |
| R808 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R809 | 1-218-704-11 | s | METAL, CHIP 3.3K 0.50% 1/16W |
| R810 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |

(DPR-115 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R811 | 1-216-669-11 | s | METAL, CHIP 5.6K 0.5% 1/10W |
| R812 | 1-216-651-11 | s | METAL, CHIP 1K 0.5% 1/10W |
| R813 | 1-216-667-11 | s | METAL, CHIP 4.7K 0.5% 1/10W |
| R814 | 1-216-662-11 | s | METAL, CHIP 3K 0.5% 1/10W |
| R815 | 1-216-667-11 | s | METAL, CHIP 4.7K 0.5% 1/10W |
| R816 | 1-216-295-91 | s | RES, CHIP 0 |
| R817 | 1-216-661-11 | s | METAL, CHIP 2.7K 0.5% 1/10W |
| R818 | 1-216-651-11 | s | METAL, CHIP 1K 0.5% 1/10W |
| R819 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R820 | 1-216-133-00 | s | METAL, CHIP 3.3M 5% 1/10W |
| R821 | 1-216-651-11 | s | METAL, CHIP 1K 0.5% 1/10W |
| R822 | 1-216-651-11 | s | METAL, CHIP 1K 0.5% 1/10W |
| R823 | 1-216-651-11 | s | METAL, CHIP 1K 0.5% 1/10W |
| R824 | 1-216-649-11 | s | METAL, CHIP 820 0.5% 1/10W |
| R825 | 1-216-651-11 | s | METAL, CHIP 1K 0.5% 1/10W |
| R826 | 1-216-659-11 | s | METAL, CHIP 2.2K 0.5% 1/10W |
| R827 | 1-216-133-00 | s | METAL, CHIP 3.3M 5% 1/10W |
| R828 | 1-218-755-11 | s | METAL 130K 0.50% 1/10W |
| R829 | 1-216-659-11 | s | METAL, CHIP 2.2K 0.5% 1/10W |
| R830 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R831 | 1-218-776-11 | s | METAL 1M 0.5% 1/10W |
| R832 | 1-216-651-11 | s | METAL, CHIP 1K 0.5% 1/10W |
| R833 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R900 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R901 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R902 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R903 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R904 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R905 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R906 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R907 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R908 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R909 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R911 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R912 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R913 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R914 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R915 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R916 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R917 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R918 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R919 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R920 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R1000 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1001 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1002 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1003 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1004 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1005 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1006 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1007 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1012 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1013 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1018 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1019 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1020 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1021 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1022 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1023 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |

(DPR-115 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R1024 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1025 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1026 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1100 | 1-216-683-11 | s | METAL, CHIP 22K 0.5% 1/10W |
| R1101 | 1-216-677-11 | s | METAL, CHIP 12K 0.5% 1/10W |
| R1102 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R1103 | 1-216-627-11 | s | METAL, CHIP 100 0.5% 1/10W |
| R1104 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R1105 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1106 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1107 | 1-216-699-11 | s | METAL, CHIP 100K 0.5% 1/10W |
| R1108 | 1-216-627-11 | s | METAL, CHIP 100 0.5% 1/10W |
| R1109 | 1-216-659-11 | s | METAL, CHIP 2.2K 0.5% 1/10W |
| R1110 | 1-216-635-11 | s | METAL, CHIP 220 0.5% 1/10W |
| R1111 | 1-216-635-11 | s | METAL, CHIP 220 0.5% 1/10W |
| R1112 | 1-216-663-11 | s | METAL, CHIP 3.3K 0.5% 1/10W |
| R1113 | 1-216-648-11 | s | METAL, CHIP 750 0.5% 1/10W |
| R1114 | 1-216-648-11 | s | METAL, CHIP 750 0.5% 1/10W |
| R1115 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1116 | 1-216-699-11 | s | METAL, CHIP 100K 0.5% 1/10W |
| R1117 | 1-216-683-11 | s | METAL, CHIP 22K 0.5% 1/10W |
| R1118 | 1-216-677-11 | s | METAL, CHIP 12K 0.5% 1/10W |
| R1119 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1120 | 1-216-651-11 | s | METAL, CHIP 1K 0.5% 1/10W |
| R1121 | 1-216-627-11 | s | METAL, CHIP 100 0.5% 1/10W |
| R1122 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1123 | 1-216-651-11 | s | METAL, CHIP 1K 0.5% 1/10W |
| R1124 | 1-216-683-11 | s | METAL, CHIP 22K 0.5% 1/10W |
| R1125 | 1-216-677-11 | s | METAL, CHIP 12K 0.5% 1/10W |
| R1126 | 1-216-651-11 | s | METAL, CHIP 1K 0.5% 1/10W |
| R1127 | 1-216-627-11 | s | METAL, CHIP 100 0.5% 1/10W |
| R1128 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1129 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1130 | 1-216-651-11 | s | METAL, CHIP 1K 0.5% 1/10W |
| R1200 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1201 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1202 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1203 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1204 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1205 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1206 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R1207 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R1208 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R1209 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R1210 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1211 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1212 | 1-216-864-11 | s | CONDUCTOR, CHIP |
| R1213 | 1-216-732-11 | s | RES, METAL FILM CHIP 47K |
| R1214 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1215 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1217 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1218 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1220 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1221 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1222 | 1-218-732-11 | s | METAL 47K 0.50% 1/16W |
| R1223 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R1224 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1225 | 1-218-692-11 | s | METAL 1K 0.50% 1/16W |
| R1226 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |

(DPR-115 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R1227 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1228 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1229 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1230 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1231 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1232 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1233 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R1234 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1235 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R1236 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1237 | 1-218-728-11 | s | RES, METAL FILM CHIP 33K |
| R1238 | 1-218-727-11 | s | RES, METAL FILM CHIP 30K |
| R1239 | 1-216-864-11 | s | CONDUCTOR, CHIP |
| R1240 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R1400 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1401 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R1402 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1403 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1404 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1405 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R1406 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1407 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1408 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1409 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R1410 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1411 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1412 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1413 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R1414 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1415 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1416 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1417 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1418 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R1419 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1420 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1421 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1422 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R1423 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R1424 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1425 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1426 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R1427 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R1428 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1429 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R1430 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1431 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1432 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1433 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1434 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1435 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1436 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1437 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1438 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1439 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1440 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1441 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1442 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1443 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1444 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |

(DPR-115 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R1445 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1446 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1447 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1448 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1449 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1450 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1451 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1452 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1453 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1454 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1455 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1456 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1457 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1458 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1459 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1460 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1461 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1462 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R1463 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R1464 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R1465 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1466 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1467 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1468 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1469 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1470 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1471 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R1500 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1501 | 1-216-649-11 | s | METAL, CHIP 820 0.5% 1/10W |
| R1502 | 1-216-627-11 | s | METAL, CHIP 100 0.5% 1/10W |
| R1503 | 1-216-666-11 | s | METAL, CHIP 4.3K 0.5% 1/10W |
| R1504 | 1-216-635-11 | s | METAL, CHIP 220 0.5% 1/10W |
| R1505 | 1-216-693-11 | s | METAL, CHIP 56K 0.5% 1/10W |
| R1506 | 1-216-347-11 | s | METAL 0.68 5% 1W |
| R1507 | 1-216-655-11 | s | METAL, CHIP 1.5K 0.5% 1/10W |
| R1508 | 1-216-659-11 | s | METAL, CHIP 2.2K 0.5% 1/10W |
| R1509 | 1-216-619-11 | s | METAL, CHIP 47 0.5% 1/10W |
| R1510 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1511 | 1-216-654-11 | s | METAL, CHIP 1.3K 0.5% 1/10W |
| R1512 | 1-216-654-11 | s | METAL, CHIP 1.3K 0.5% 1/10W |
| R1513 | 1-216-654-11 | s | METAL, CHIP 1.3K 0.5% 1/10W |
| R1514 | 1-216-683-11 | s | METAL, CHIP 22K 0.5% 1/10W |
| R1515 | 1-216-677-11 | s | METAL, CHIP 12K 0.5% 1/10W |
| R1516 | 1-216-635-11 | s | METAL, CHIP 220 0.5% 1/10W |
| R1517 | 1-216-679-11 | s | METAL, CHIP 15K 0.5% 1/10W |
| R1518 | 1-216-627-11 | s | METAL, CHIP 100 0.5% 1/10W |
| R1519 | 1-216-691-11 | s | METAL, CHIP 47K 0.5% 1/10W |
| R1520 | 1-216-627-11 | s | METAL, CHIP 100 0.5% 1/10W |
| R1521 | 1-216-653-11 | s | METAL, CHIP 1.2K 0.5% 1/10W |
| R1522 | 1-216-676-11 | s | METAL, CHIP 11K 0.5% 1/10W |
| R1523 | 1-216-679-11 | s | METAL, CHIP 15K 0.5% 1/10W |
| R1524 | 1-216-674-11 | s | METAL, CHIP 9.1K 0.5% 1/10W |
| R1525 | 1-216-627-11 | s | METAL, CHIP 100 0.5% 1/10W |
| R1526 | 1-216-689-11 | s | METAL, CHIP 39K 0.5% 1/10W |
| R1527 | 1-216-684-91 | s | METAL, CHIP 24K 0.5% 1/10W |
| R1528 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1529 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1530 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1531 | 1-216-347-11 | s | METAL 0.68 5% 1W |

(DPR-115 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R1532 | 1-216-659-11 | s | METAL, CHIP 2.2K 0.5% 1/10W |
| R1533 | 1-216-635-11 | s | METAL, CHIP 220 0.5% 1/10W |
| R1534 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1535 | 1-216-659-11 | s | METAL, CHIP 2.2K 0.5% 1/10W |
| R1536 | 1-216-619-11 | s | METAL, CHIP 47 0.5% 1/10W |
| R1537 | 1-216-683-11 | s | METAL, CHIP 22K 0.5% 1/10W |
| R1538 | 1-216-683-11 | s | METAL, CHIP 22K 0.5% 1/10W |
| R1539 | 1-216-627-11 | s | METAL, CHIP 100 0.5% 1/10W |
| R1540 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1541 | 1-216-691-11 | s | METAL, CHIP 47K 0.5% 1/10W |
| R1542 | 1-216-627-11 | s | METAL, CHIP 100 0.5% 1/10W |
| R1543 | 1-216-627-11 | s | METAL, CHIP 100 0.5% 1/10W |
| R1544 | 1-216-653-11 | s | METAL, CHIP 1.2K 0.5% 1/10W |
| R1545 | 1-216-659-11 | s | METAL, CHIP 2.2K 0.5% 1/10W |
| R1546 | 1-216-684-91 | s | METAL, CHIP 24K 0.5% 1/10W |
| R1547 | 1-216-663-11 | s | METAL, CHIP 3.3K 0.5% 1/10W |
| R1548 | 1-216-667-11 | s | METAL, CHIP 4.7K 0.5% 1/10W |
| R1549 | 1-216-643-11 | s | METAL, CHIP 470 0.5% 1/10W |
| R1550 | 1-216-676-11 | s | METAL, CHIP 11K 0.5% 1/10W |
| R1551 | 1-216-689-11 | s | METAL, CHIP 39K 0.5% 1/10W |
| R1552 | 1-216-659-11 | s | METAL, CHIP 2.2K 0.5% 1/10W |
| R1553 | 1-216-659-11 | s | METAL, CHIP 2.2K 0.5% 1/10W |
| R1554 | 1-216-671-11 | s | METAL, CHIP 6.8K 0.5% 1/10W |
| R1555 | 1-216-678-11 | s | METAL, CHIP 13K 0.5% 1/10W |
| R1556 | 1-216-699-11 | s | METAL, CHIP 100K 0.5% 1/10W |
| R1557 | 1-216-651-11 | s | METAL, CHIP 1K 0.5% 1/10W |
| R1558 | 1-216-341-11 | s | METAL 0.22 5% 1W |
| R1559 | 1-216-651-11 | s | METAL, CHIP 1K 0.5% 1/10W |
| R1560 | 1-216-643-11 | s | METAL, CHIP 470 0.5% 1/10W |
| R1561 | 1-216-663-11 | s | METAL, CHIP 3.3K 0.5% 1/10W |
| R1562 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1563 | 1-216-659-11 | s | METAL, CHIP 2.2K 0.5% 1/10W |
| R1564 | 1-216-619-11 | s | METAL, CHIP 47 0.5% 1/10W |
| R1566 | 1-216-682-11 | s | METAL, CHIP 20K 0.5% 1/10W |
| R1567 | 1-216-685-11 | s | METAL, CHIP 27K 0.5% 1/10W |
| R1568 | 1-216-627-11 | s | METAL, CHIP 100 0.5% 1/10W |
| R1569 | 1-216-691-11 | s | METAL, CHIP 47K 0.5% 1/10W |
| R1570 | 1-216-627-11 | s | METAL, CHIP 100 0.5% 1/10W |
| R1571 | 1-216-653-11 | s | METAL, CHIP 1.2K 0.5% 1/10W |
| R1572 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1573 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1574 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1575 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1576 | 1-216-295-91 | s | RES, CHIP 0 |
| R1579 | 1-216-684-91 | s | METAL, CHIP 24K 0.5% 1/10W |
| R1580 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1581 | 1-216-676-11 | s | METAL, CHIP 11K 0.5% 1/10W |
| R1582 | 1-218-753-11 | s | METAL 110K 0.50% 1/10W |
| R1583 | 1-216-635-11 | s | METAL, CHIP 220 0.5% 1/10W |
| R1584 | 1-216-347-11 | s | METAL 0.68 5% 1W |
| R1585 | 1-216-651-11 | s | METAL, CHIP 1K 0.5% 1/10W |
| R1586 | 1-216-659-11 | s | METAL, CHIP 2.2K 0.5% 1/10W |
| R1587 | 1-216-619-11 | s | METAL, CHIP 47 0.5% 1/10W |
| R1588 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1589 | 1-216-687-11 | s | METAL, CHIP 33K 0.5% 1/10W |
| R1590 | 1-216-679-11 | s | METAL, CHIP 15K 0.5% 1/10W |
| R1591 | 1-216-627-11 | s | METAL, CHIP 100 0.5% 1/10W |
| R1592 | 1-216-691-11 | s | METAL, CHIP 47K 0.5% 1/10W |
| R1593 | 1-216-627-11 | s | METAL, CHIP 100 0.5% 1/10W |

(DPR-115 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R1594 | 1-216-653-11 | s | METAL, CHIP 1.2K 0.5% 1/10W |
| R1595 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1596 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1597 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1598 | 1-216-627-11 | s | METAL, CHIP 100 0.5% 1/10W |
| R1599 | 1-216-684-91 | s | METAL, CHIP 24K 0.5% 1/10W |
| R1600 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1601 | 1-216-667-11 | s | METAL, CHIP 4.7K 0.5% 1/10W |
| R1602 | 1-218-763-11 | s | METAL 300K 0.50% 1/10W |
| R1603 | 1-216-635-11 | s | METAL, CHIP 220 0.5% 1/10W |
| R1604 | 1-216-347-11 | s | METAL 0.68 5% 1W |
| R1605 | 1-216-651-11 | s | METAL, CHIP 1K 0.5% 1/10W |
| R1606 | 1-216-659-11 | s | METAL, CHIP 2.2K 0.5% 1/10W |
| R1607 | 1-216-619-11 | s | METAL, CHIP 47 0.5% 1/10W |
| R1608 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1609 | 1-216-687-11 | s | METAL, CHIP 33K 0.5% 1/10W |
| R1610 | 1-216-679-11 | s | METAL, CHIP 15K 0.5% 1/10W |
| R1611 | 1-216-627-11 | s | METAL, CHIP 100 0.5% 1/10W |
| R1612 | 1-216-691-11 | s | METAL, CHIP 47K 0.5% 1/10W |
| R1613 | 1-216-627-11 | s | METAL, CHIP 100 0.5% 1/10W |
| R1614 | 1-216-653-11 | s | METAL, CHIP 1.2K 0.5% 1/10W |
| R1615 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1616 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1617 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1618 | 1-216-627-11 | s | METAL, CHIP 100 0.5% 1/10W |
| R1619 | 1-216-684-91 | s | METAL, CHIP 24K 0.5% 1/10W |
| R1620 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R1621 | 1-216-671-11 | s | METAL, CHIP 6.8K 0.5% 1/10W |
| R1622 | 1-216-295-91 | s | RES, CHIP 0 |
| R1623 | 1-216-341-11 | s | METAL 0.22 5% 1W |
| RB1200 | 1-239-412-11 | s | RESISTOR BLOCK, CHIP 100x4 |
| RB1201 | 1-239-306-11 | s | RESISTOR BLOCK, CHIP 10kx8 |
| RB1202 | 1-239-306-11 | s | RESISTOR BLOCK, CHIP 10kx8 |
| RB1203 | 1-239-306-11 | s | RESISTOR BLOCK, CHIP 10kx8 |
| RB1204 | 1-239-306-11 | s | RESISTOR BLOCK, CHIP 10kx8 |
| RB1205 | 1-239-306-11 | s | RESISTOR BLOCK, CHIP 10kx8 |
| RB1206 | 1-239-412-11 | s | RESISTOR BLOCK, CHIP 100x4 |
| RB1207 | 1-239-412-11 | s | RESISTOR BLOCK, CHIP 100x4 |
| RB1208 | 1-239-306-11 | s | RESISTOR BLOCK, CHIP 10kx8 |
| RB1209 | 1-239-308-11 | s | RESISTOR BLOCK, CHIP 47kx8 |
| RB1300 | 1-239-306-11 | s | RESISTOR BLOCK, CHIP 10kx8 |
| RB1301 | 1-239-306-11 | s | RESISTOR BLOCK, CHIP 10kx8 |
| RB1302 | 1-239-416-11 | s | RESISTOR BLOCK, CHIP 220x4 |
| RB1303 | 1-239-416-11 | s | RESISTOR BLOCK, CHIP 220x4 |
| RB1304 | 1-239-306-11 | s | RESISTOR BLOCK, CHIP 10kx8 |
| RV700 | 1-237-034-11 | s | RES, ADJ METAL 2K |
| RV1100 | 1-237-033-11 | s | RES, ADJ METAL 1K |
| RV1101 | 1-237-033-11 | s | RES, ADJ METAL 1K |
| S1200 | 1-572-438-11 | s | SWITCH, PUSH |
| S1300 | 1-692-530-11 | s | SWITCH, TOGGLE |
| S1301 | 1-762-994-11 | s | SWITCH, ROTARY |
| S1302 | 1-762-118-21 | s | SWITCH, TOGGLE |
| S1303 | 1-571-967-11 | s | SWITCH, DIP 8-CKT |
| TH1500 | 1-809-354-11 | s | THERMISTOR, CHIP 3.3K |
| TH1501 | 1-809-354-11 | s | THERMISTOR, CHIP 3.3K |
| TH1502 | 1-809-354-11 | s | THERMISTOR, CHIP 3.3K |
| TH1503 | 1-809-354-11 | s | THERMISTOR, CHIP 3.3K |
| TH1600 | 1-809-354-11 | s | THERMISTOR, CHIP 3.3K |

(DPR-115 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| X700 | 1-767-695-21 | s | OSCILLATOR, CRYSTAL |
| X1101 | 1-767-329-11 | s | OSCILLATOR, CRYSTAL 74.175824MHz |
| X1102 | 1-767-694-21 | s | OSCILLATOR, CRYSTAL |
| X1103 | 1-781-496-21 | s | OSCILLATOR, CRYSTAL |
| X1200 | 1-579-352-11 | s | RESONATOR, CERAMIC 12.50MH |

## 5-2. Optional Fixtures

| Part No. | SP | Description |
|---|---|---|
| J-6185-960-A | o | EXTENTION BOARD, EX-331 |
| J-6035-070-A | o | EXTRACTION TOOL, IC(CT-2101) |

http://getMANUAL.com



# Section 6
# Semiconductor Pin Assignments

ここに記載されている半導体は，それぞれの機能を等価的に表したものです。　なお，互換性のない型名を併記していることがありますので，部品を交換するときは，Spare Partsの章を参照してください。
等価回路はICメーカーのデータブックに従いました。

Semiconductors of which functions are equivalent are described here. For parts replacement, refer to the section of Spare Parts in this manual. The circuit diagram of each IC is obtained from the IC data book published by the manufacturer.


**DIODE** **Page**

1SS123-T1 ..... 6-2
1SS226 ..... 6-2

DA204U ..... 6-2
DA204UT106 ..... 6-2

EA30QS04-F ..... 6-2
EA30QS04-TE16F2 ..... 6-2

RB420D ..... 6-2
RD4.7M-B ..... 6-2
RD4.7M-T1B ..... 6-2

SB02-03C-TB ..... 6-2

**TRANSISTOR** **Page**

2SA1610-T1Y33 ..... 6-2
2SA1610-Y33 ..... 6-2
2SA1611-M5M6 ..... 6-2
2SA1611T1-M5M6 ..... 6-2
2SC3356-(R25) ..... 6-2
2SC3356-T1(R25) ..... 6-2
2SC4177-L6 ..... 6-2
2SC4177-T1L5L6 ..... 6-2

DTA114EUA ..... 6-2
DTA114EUA-T106 ..... 6-2
DTA144EUA-T106 ..... 6-2

SI4562DY ..... 6-2

**LED** **Page**

HLMP-6300-010 ..... 6-2
HLMP-6500-010 ..... 6-2

**IC** **Page**

74F74SJ ..... 6-2
74LCX00SJX ..... 6-2
74LCX04MTCX ..... 6-2
74LCX04SJX ..... 6-2
74LCX08MTCX ..... 6-2
74LCX16374MTDX ..... 6-3
74LCX244MTCX ..... 6-3
74LCX245MTCX ..... 6-3
74LCX245SJX ..... 6-3
74LCX540MTCX ..... 6-4
74LCX541MTCX ..... 6-4
74LCX541SJX ..... 6-4
74LCX574MTCX ..... 6-4
74LCX821MTCX ..... 6-4
74VHC541MTCX ..... 6-4
74VHCT08MTCX ..... 6-2
74VHCT74MTCX ..... 6-4

CXA1451M ..... 6-5
CXA1451M-TH ..... 6-5
CXB1340N ..... 6-5
CXB1341R ..... 6-5
CXB1342R ..... 6-6
CXD1095AR ..... 6-7
CXD1095BQ ..... 6-8
CXD9000CR ..... 6-7
CXD9013AR ..... 6-9
CXD9014BR ..... 6-9
CXD9017BR ..... 6-10
CXD9019AR ..... 6-10
CXD9020CR ..... 6-11
CXD9074R ..... 6-20
CXG8003Q ..... 6-12
CXG8004Q ..... 6-13

EL2244CS ..... 6-11
EL2244CS-TE2 ..... 6-11
EPM7128STC100-15 ..... 6-20
EPM7160STC100-7 ..... 6-21

HD647180XRCP8L ..... 6-14

KM416S1020CT-G10T ... 6-11

LM1881M ..... 6-15
LM1881MX ..... 6-15
LT1085CM-TR ..... 6-15
LT1431CS8-E1 ..... 6-15

**IC** **Page**

MC100LVEL91DWR2 ..... 6-15
MC10EL11DR2 ..... 6-15
MC10EL16DR2 ..... 6-15
MC10EL52DR2 ..... 6-16
MC10H124M ..... 6-16
MC10H124MEL ..... 6-16
MC34182DR2 ..... 6-16
MC34182M ..... 6-16
MC74HC4053FEL ..... 6-16
MIC5201-3.3BS ..... 6-16

NJM360M ..... 6-16
NJM360M-TE2 ..... 6-16

SC7S04F ..... 6-16
SN74HC540ANS ..... 6-4
SN74HC540ANS-E05 ..... 6-4
SN75207BNS ..... 6-16
SN75207BNS-E05 ..... 6-16
STK12C68-S45 ..... 6-17

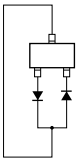
TC74HC4053AFT(EL) ..... 6-16
TC74VHC08FT(EL) ..... 6-2
TC74VHC125FT(EL) ..... 6-16
TC74VHC221AFT(EL) ..... 6-17
TC74VHC540F(EL) ..... 6-4
TC74VHC74FT(EL) ..... 6-4
TC74VHCT00AFT(EL) ..... 6-2
TC7S04F(TE85R) ..... 6-16
TC7S08F ..... 6-17
TC7S08F(TE85R) ..... 6-17
TL1451ACNS ..... 6-17
TL1451ACNS-E05 ..... 6-17
TL431CPS ..... 6-17
TL431CPS-E05 ..... 6-17
TL7705ACPS ..... 6-19
TL7705ACPS-E05 ..... 6-19
TLC272CPW-E05 ..... 6-17
TLC2932IPW ..... 6-18
TLC2932IPW-E05 ..... 6-18

UPA102G-E1 ..... 6-18
UPD42280GU-30 ..... 6-18

XC95108-15PQ160C ..... 6-19

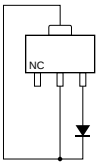
## DIODE

—TOP VIEW—



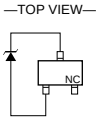
1SS123-T1
1SS226
DA204U
DA204UT106
RB420D
SB02-03C-TB

—TOP VIEW—



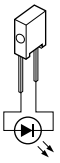

EA30QS04-F
EA30QS04-TE16F2

—TOP VIEW—




RD4.7M-B
RD4.7M-T1B

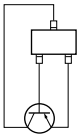
## LED



HLMP-6300-010
HLMP-6500-010

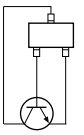
## TRANSISTOR

—TOP VIEW—



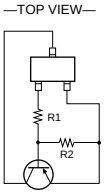
2SA1610-T1Y33
2SA1610-Y33
2SA1611-M5M6
2SA1611T1-M5M6

—TOP VIEW—

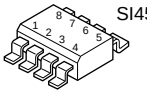


2SC3356-(R25)
2SC3356-T1(R25)
2SC4177-L6
2SC4177-T1L5L6

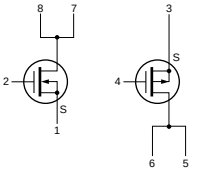
—TOP VIEW—




DTA114EUA
(R1=10k,R2=10k)
DTA114EUA-T106
DTA144EUA-T106
(R1=47k,R2=47k)



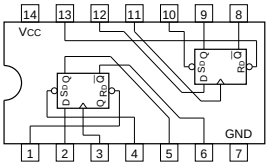
SI4562DY

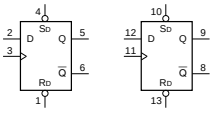



## IC

74F74SJ (NS)

TTL D-TYPE FLIP FLOP WITH DIRECT SET/RESET
—TOP VIEW—



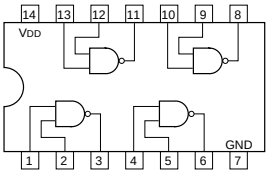



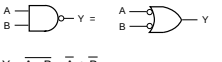
| INPUTS | | | | OUTPUTS | |
|---|---|---|---|---|---|
| SD | RD | CK | D | Qn+1 | Qn+1 |
| 0 | 1 | × | × | 1 | 0 |
| 1 | 0 | × | × | 0 | 1 |
| 0 | 0 | × | × | 1* | 1* |
| 1 | 1 | ↓ | 1 | 1 | 0 |
| 1 | 1 | ↓ | 0 | 0 | 1 |
| 1 | 1 | 0 | × | Qn | $\overline{Qn}$ |

0 : LOW LEVEL
1 : HIGH LEVEL
× : DON'T CARE
1* : NONSTABLE

74LCX00SJX (NS)
TC74VHCT00AFT(EL) (TOSHIBA)

C-MOS QUAD 2-INPUT NAND GATES
—TOP VIEW—



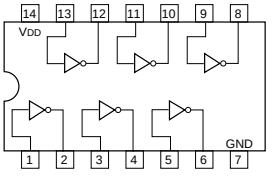
$Y = \overline{A \cdot B} = \overline{A} + \overline{B}$

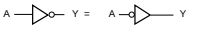
| A | B | Y |
|---|---|---|
| 0 | 0 | 1 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |

0 ; LOW LEVEL
1 ; HIGH LEVEL

74LCX04MTCX (NS)
74LCX04SJX (NS)

C-MOS HEX INVERTERS
—TOP VIEW—



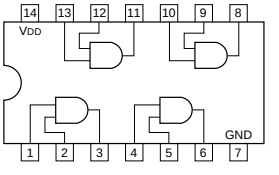
$Y = \overline{A}$

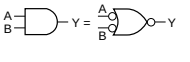
| A | Y |
|---|---|
| 0 | 1 |
| 1 | 0 |

0 : LOW LEVEL
1 : HIGH LEVEL

74LCX08MTCX (NS)
74VHCT08MTCX (NS)
TC74VHC08FT(EL) (TOSHIBA)

C-MOS QUAD 2-INPUT AND GATES
—TOP VIEW—



$Y = A \cdot B = \overline{\overline{A} + \overline{B}}$

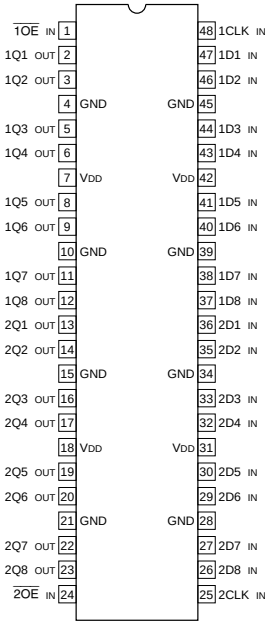
| A | B | Y |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

0 : LOW LEVEL
1 : HIGH LEVEL

## 74LCX16374MTDX (NS)

C-MOS 3-STATE 16-BIT D-TYPE FLIP-FLOP

—TOP VIEW—




**INPUT**

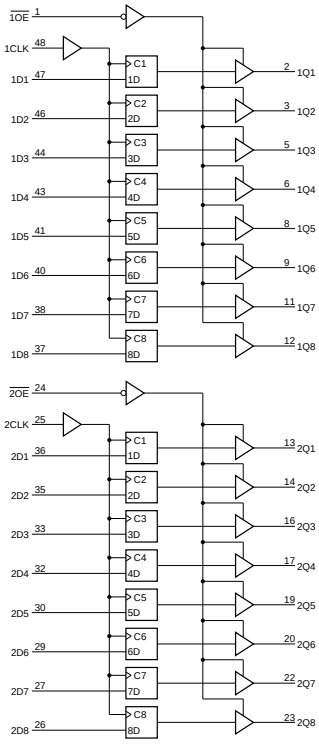
1CLK, 2CLK : CLOCK
1D1 - 1D8, 2D1 - 2D8 : DATA
1OE, 2OE : OUTPUT ENABLE

**OUTPUT**

1Q1 - 1Q8, 2Q1 - 2Q8 : DATA

| INPUTS | | | OUTPUT |
|---|---|---|---|
| $\overline{OE}$ | CLK | D | Q |
| 0 | ↑ | 1 | 1 |
| 0 | ↑ | 0 | 0 |
| 0 | 0 | × | Qo |
| 1 | × | × | HI-Z |

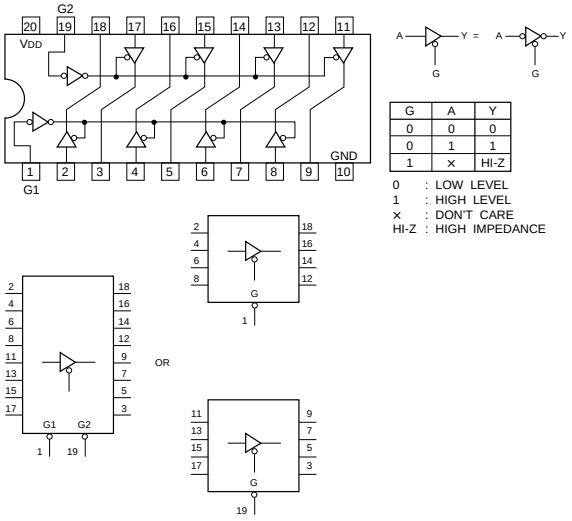
0 : LOW LEVEL
1 : HIGH LEVEL
× : DON'T CARE
HI-Z : HIGH IMPEDANCE




## 74LCX244MTCX (NS)

C-MOS BUS BUFFER WITH 3-STATE OUTPUTS

—TOP VIEW—



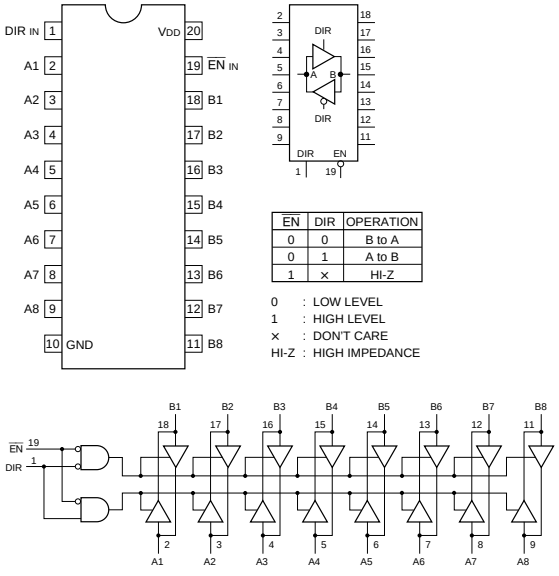

| G | A | Y |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | × | HI-Z |

0 : LOW LEVEL
1 : HIGH LEVEL
× : DON'T CARE
HI-Z : HIGH IMPEDANCE

## 74LCX245MTCX (NS)
## 74LCX245SJX (NS)

C-MOS BILATERAL BUS TRANSCEIVERS WITH 3-STATE OUTPUTS

—TOP VIEW—

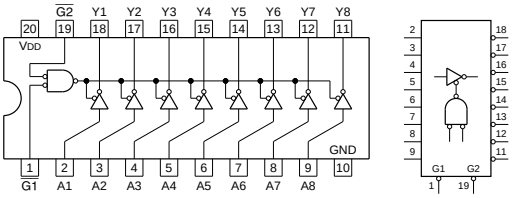



| $\overline{EN}$ | DIR | OPERATION |
|---|---|---|
| 0 | 0 | B to A |
| 0 | 1 | A to B |
| 1 | × | HI-Z |

0 : LOW LEVEL
1 : HIGH LEVEL
× : DON'T CARE
HI-Z : HIGH IMPEDANCE

74LCX540MTCX (NS)
SN74HC540ANS (TI)
SN74HC540ANS-E05
TC74VHC540F(EL) (TOSHIBA)

C-MOS 3-STATE OCTAL INVERTING BUFFERS/DRIVERS
—TOP VIEW—

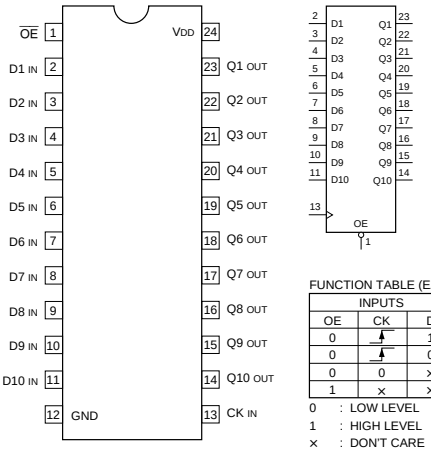


| G1 | G2 | A | Y |
|---|---|---|---|
| 0 | 0 | 0 | 1 |
| 0 | 0 | 1 | 0 |
| 1 | × | × | HI-Z |
| × | 1 | × | HI-Z |

0 : LOW LEVEL
1 : HIGH LEVEL
× : DON'T CARE
HI-Z : HIGH IMPEDANCE

74LCX821MTCX (NS)

C-MOS 10-BIT BUS INTERFACE FLIP-FLOPS WITH 3-STATE OUTPUTS
—TOP VIEW—







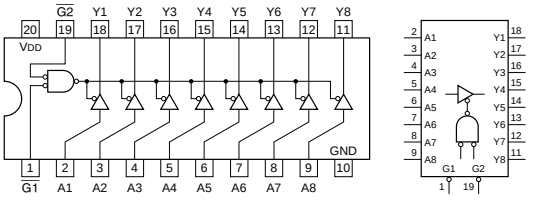
FUNCTION TABLE (EACH FLIP-FLOP)

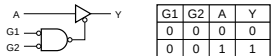
| INPUTS | | | OUTPUTS |
|---|---|---|---|
| OE | CK | D | Q |
| 0 | ↑ | 1 | 1 |
| 0 | ↑ | 0 | 0 |
| 0 | 0 | × | Q0 |
| 1 | × | × | HI-Z |

0 : LOW LEVEL
1 : HIGH LEVEL
× : DON'T CARE
HI-Z : HIGH IMPEDANCE

74LCX541MTCX (NS)
74LCX541SJX (NS)
74VHC541MTCX (NS)

C-MOS BUFFERS AND LINE DRIVERS WITH 3-STATE OUTPUTS
—TOP VIEW—

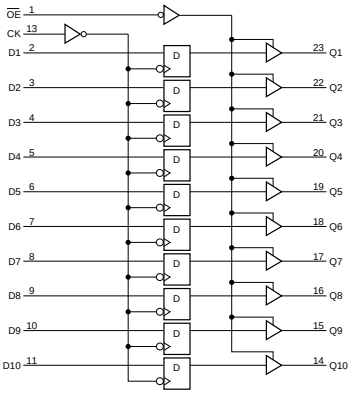



| G1 | G2 | A | Y |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 1 |
| 1 | × | × | HI-Z |
| × | 1 | × | HI-Z |

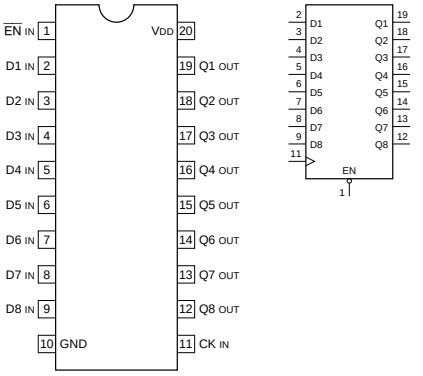
0 : LOW LEVEL
1 : HIGH LEVEL
× : DON'T CARE
HI-Z : HIGH IMPEDANCE

LOGIC DIAGRAM (POSITIVE LOGIC)




74LCX574MTCX (NS)

C-MOS 3-STATE D-TYPE EDGE-TRIGGERED FLIP-FLOP
—TOP VIEW—



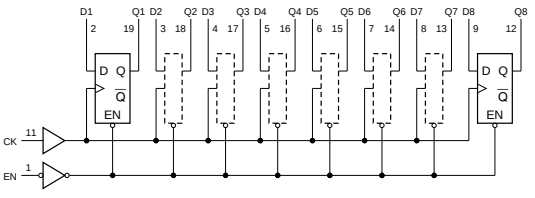




EACH FLIP-FLOP

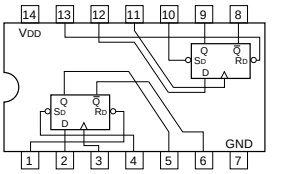
| INPUTS | | | OUT |
|---|---|---|---|
| EN | CK | D | Q |
| 0 | ↑ | 1 | 1 |
| 0 | ↑ | 0 | 0 |
| 0 | ↓ | × | Q0 |
| 1 | × | × | HI-Z |

0 : LOW LEVEL
1 : HIGH LEVEL
× : DON'T CARE
HI-Z : HIGH IMPEDANCE
Q0 : NONSTABLE



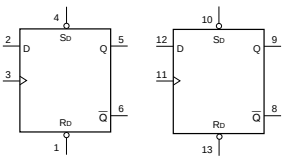

74VHCT74MTCX (NS)
TC74VHC74FT(EL) (TOSHIBA)

C-MOS DUAL D-TYPE FLIP-FLOPS WITH DIRECT SET/RESET
—TOP VIEW—



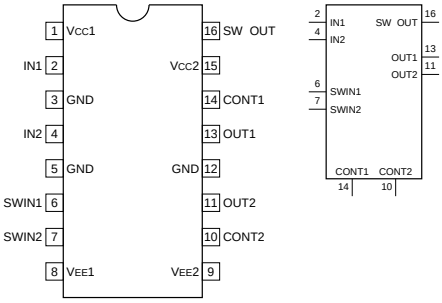

| INPUTS | | | | OUTPUTS | |
|---|---|---|---|---|---|
| $\overline{SD}$ | $\overline{RD}$ | CK | D | Qn+1 | $\overline{Qn+1}$ |
| 0 | 1 | × | × | 1 | 0 |
| 1 | 0 | × | × | 0 | 1 |
| 0 | 0 | × | × | 1 | 1 |
| 1 | 1 | ↑ | 1 | 1 | 0 |
| 1 | 1 | ↑ | 0 | 0 | 1 |
| 1 | 1 | 0 | × | Qn | $\overline{Qn}$ |

0 : LOW LEVEL
1 : HIGH LEVEL
× : DON'T CARE



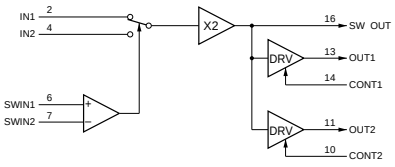
## CXA1451M (SONY)
## CXA1451M-TH

WIDEBAND VIDEO SWITCH
—TOP VIEW—



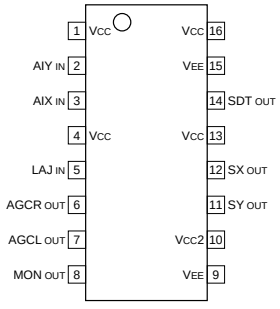

**INPUT**
CONT1, 2 : POWER SAVE CONTROL PIN OF DRV. 1 AND DRV. 2
INT1, 2 : 1/2-CHANNEL INPUT PIN
SWIN1, 2 : IN1/IN2 PINS SWITCH CONTROL PIN

**OUTPUT**
OUT1, 2 : OUTPUT PIN OF DRV. 1/2
SWOUT : OUTPUTS IN1 PIN OR IN2 PIN WHICH HAS BEEN SELECTED BY SWITCH




## CXB1340N (SONY)

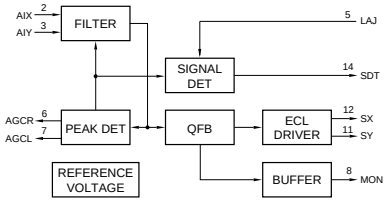
EQUALIZER
—TOP VIEW—




**INPUT**
AIX : SERIAL X
AIY : SERIAL Y
LAJ : INPUT SIGNAL DETECT LEVEL ADJUST

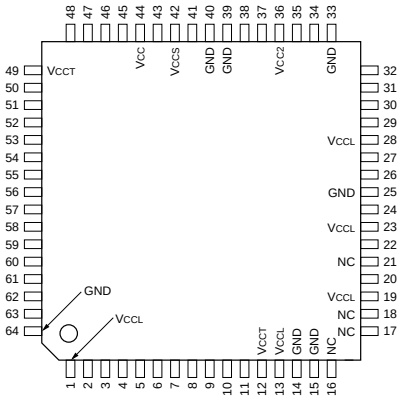
**OUTPUT**
AGCL : DETECTOR LEVEL
AGCR : DETECTOR REFERENCE LEVEL
MON : EQUALIZED SIGNAL
SDT : INPUT SIGNAL DETECT
SX : SERIAL X
SY : SERIAL Y

**OTHER**
Vcc2 : FOR SERIAL OUTPUT




## CXB1341R (SONY)

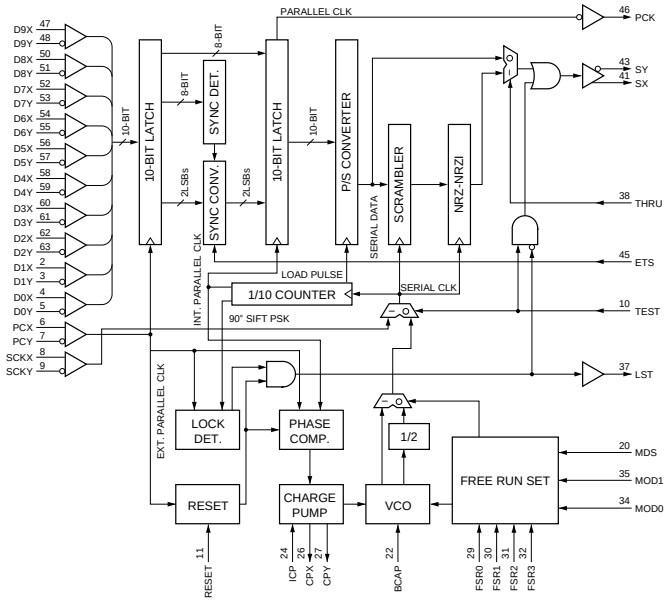
SERIAL DIGITAL INTERFACE TRANSMISSION ENCODER
—TOP VIEW—




| PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | — | VCCL | 17 | — | NC | 33 | — | GND | 49 | — | VCCT |
| 2 | I | D1X | 18 | — | NC | 34 | I | MOD0 | 50 | I | D8X |
| 3 | I | D1Y | 19 | — | VCCL | 35 | I | MOD1 | 51 | I | D8Y |
| 4 | I | D0X | 20 | I | MDS | 36 | — | VCC2 | 52 | I | D7X |
| 5 | I | D0Y | 21 | — | NC | 37 | O | LST | 53 | I | D7Y |
| 6 | I | PCX | 22 | I | BCAP | 38 | I | THRU | 54 | I | D6X |
| 7 | I | PCY | 23 | — | VCCL | 39 | — | GND | 55 | I | D6Y |
| 8 | I | SCKX | 24 | I | ICP | 40 | — | GND | 56 | I | D5X |
| 9 | I | SCKY | 25 | — | GND | 41 | O | SX | 57 | I | D5Y |
| 10 | I | TEST | 26 | O | CPX | 42 | — | VCCS | 58 | I | D4X |
| 11 | I | RESET | 27 | O | CPY | 43 | O | SY | 59 | I | D4Y |
| 12 | — | VCCT | 28 | — | VCCL | 44 | — | VCCL | 60 | I | D3X |
| 13 | — | VCCL | 29 | I | FSR0 | 45 | I | ETS | 61 | I | D3Y |
| 14 | — | GND | 30 | I | FSR1 | 46 | O | PCK | 62 | I | D2X |
| 15 | — | GND | 31 | I | FSR2 | 47 | I | D9X | 63 | I | D2Y |
| 16 | — | NC | 32 | I | FSR3 | 48 | I | D9Y | 64 | — | GND |

**INPUT**
BCAP : EXTERNAL CAPACITOR FOR VCO
D9X - D0X : POSITIVE PARALLEL DATA
D9Y - D0Y : NEGATIVE PARALLEL DATA
ETS : 8-BIT/10-BIT SELECT (L = 8-BIT, H OR OPEN = 10-BIT)
FSR0 - FSR3 : EXTERNAL RESISTOR FOR SETTING THE FREE-RUN FREQUENCY OF VCO
ICP : EXTERNAL RESISTOR FOR CHARGE PUMP
MDS : TEST
MOD0, MOD1 : VCO RATE SELECT
PCX : POSITIVE PARALLEL CLOCK
PCY : NEGATIVE PARALLEL CLOCK
RESET : PLL RESET
SCKX, SCKY : TEST
TEST : TEST
THRU : TEST

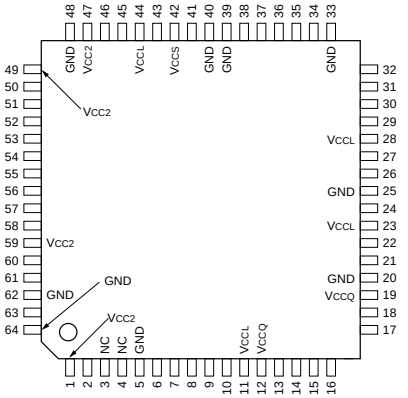
**OUTPUT**
LST : PLL LOCK STATUS
PCK : PARALLEL CLOCK
CPX, CPY : CHARGE PUMP
SX, SY : EXTERNAL RESISTOR FOR SERIAL DIFFERENTIAL



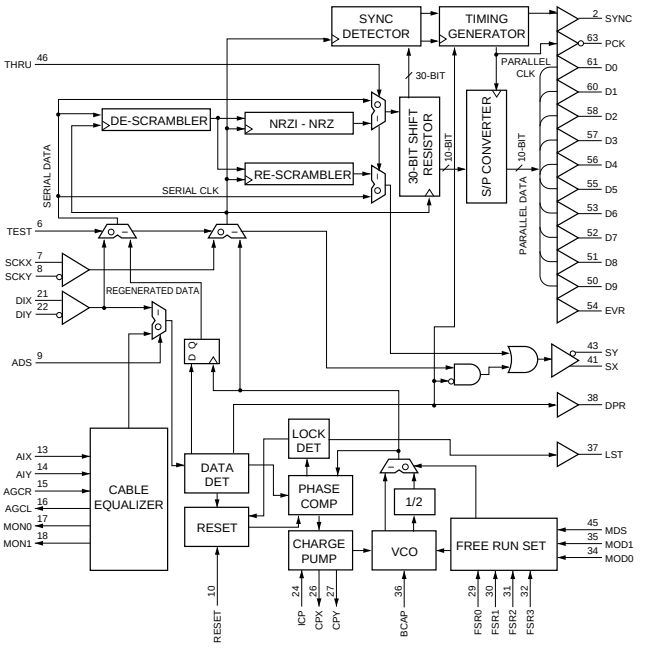
## CXB1342R (SONY)

SERIAL DIGITAL INTERFACE TRANSMISSION DECODER

—TOP VIEW—




| PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | — | $V_{CC2}$ | 17 | O | MON0 | 33 | — | GND | 49 | — | $V_{CC2}$ |
| 2 | O | SYNC | 18 | O | MON1 | 34 | I | MOD0 | 50 | O | D9 |
| 3 | — | NC | 19 | — | $V_{CCQ}$ | 35 | I | MOD1 | 51 | O | D8 |
| 4 | — | NC | 20 | — | GND | 36 | I | BCAP | 52 | O | D7 |
| 5 | — | GND | 21 | I | DIX | 37 | O | LST | 53 | O | D6 |
| 6 | I | TEST | 22 | I | DIY | 38 | O | DPR | 54 | O | EVR |
| 7 | I | SCKX | 23 | — | $V_{CCL}$ | 39 | — | GND | 55 | O | D5 |
| 8 | I | SCKY | 24 | I | ICP | 40 | — | GND | 56 | O | D4 |
| 9 | I | ADS | 25 | — | GND | 41 | O | SX | 57 | O | D3 |
| 10 | I | RESET | 26 | O | CPX | 42 | — | $V_{CCS}$ | 58 | O | D2 |
| 11 | — | $V_{CCL}$ | 27 | O | CPY | 43 | O | SY | 59 | — | $V_{CC2}$ |
| 12 | — | $V_{CCQ}$ | 28 | — | $V_{CCL}$ | 44 | — | $V_{CCL}$ | 60 | O | D1 |
| 13 | I | AIX | 29 | I | FSR0 | 45 | I | MDS | 61 | O | D0 |
| 14 | I | AIY | 30 | I | FSR1 | 46 | I | THRU | 62 | — | GND |
| 15 | I | AGCR | 31 | I | FSR2 | 47 | — | $V_{CC2}$ | 63 | O | PCK |
| 16 | O | AGCL | 32 | I | FSR3 | 48 | — | GND | 64 | — | GND |




**INPUT**

ADS : TEST
AGCR : AGC REFERENCE VOLTAGE
AIX, AIY : SERIAL DATA
BCAP : EXTERNAL CAPACITOR FOR VCO
DIX, DIY : TEST
FSR0 - FSR3 : EXTERNAL RESISTOR FOR SETTING THE VCO FREE-RUN FREQUENCY
ICP : CHARGE PUMP CURRENT SETTING
MDS : TEST
MOD0, MOD1 : VCO RATE SELECT
RESET : PLL RESET
SCKX, SCKY : TEST
TEST : TEST
THRU : TEST

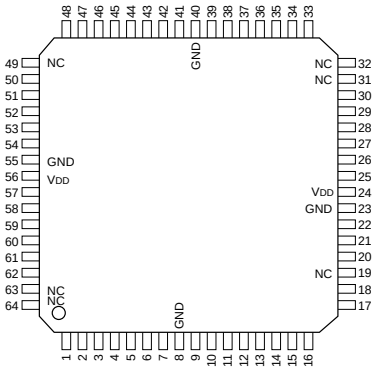
**OUTPUT**

AGCL : EXTERNAL CAPACITOR FOR PEAK DETECTION
CPX, CPY : CHARGE PUMP
D0 - D9 : PARALLEL CLOCK
DPR : PLL LOCK STATUS
EVR : PARALLEL CLOCK
LST : PLL LOCK STATUS
MON0, MON1 : EQUALIZER MONITOR
PCK : PARALLEL CLOCK
SX, SY : EXTERNAL RESISTOR FOR SERIAL DIFFERENTIAL OUTPUT
SYNC : PLL LOCK STATUS

## CXD1095AR (SONY)

C-MOS I/O EXPANDER

—TOP VIEW—



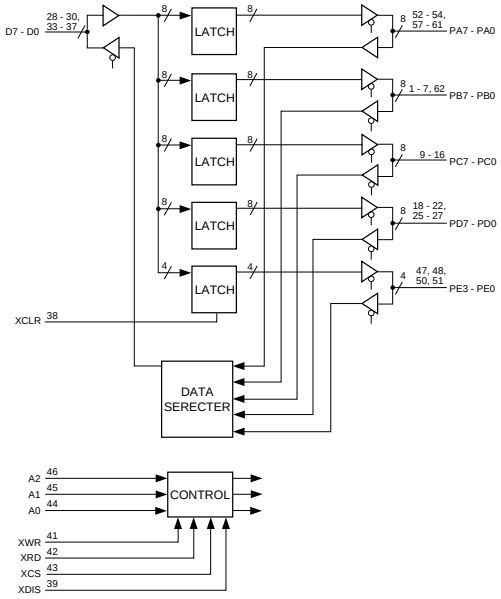

| PIN NO. | I/O | SYMBOL | PIN NO. | I/O | SYMBOL | PIN NO. | I/O | SYMBOL | PIN NO. | I/O | SYMBOL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | I/O | PB1 | 17 | I/O | NC | 33 | I/O | D3 | 49 | — | NC |
| 2 | I/O | PB2 | 18 | I/O | PD0 | 34 | I/O | D4 | 50 | I/O | PE2 |
| 3 | I/O | PB3 | 19 | I/O | PD1 | 35 | I/O | D5 | 51 | I/O | PE3 |
| 4 | I/O | PB4 | 20 | I/O | PD2 | 36 | I/O | D6 | 52 | I/O | PA0 |
| 5 | I/O | PB5 | 21 | I/O | PD3 | 37 | I/O | D7 | 53 | I/O | PA1 |
| 6 | I/O | PB6 | 22 | I/O | PD4 | 38 | I | XCLR | 54 | I/O | PA2 |
| 7 | I/O | PB7 | 23 | — | GND | 39 | I | XDIS | 55 | — | GND |
| 8 | — | GND | 24 | — | VDD | 40 | — | GND | 56 | — | VDD |
| 9 | I/O | PC0 | 25 | I/O | PD5 | 41 | I | XWR | 57 | I/O | PA3 |
| 10 | I/O | PC1 | 26 | I/O | PD6 | 42 | I | XRD | 58 | I/O | PA4 |
| 11 | I/O | PC2 | 27 | I/O | PD7 | 43 | I | XCS | 59 | I/O | PA5 |
| 12 | I/O | PC3 | 28 | I/O | D0 | 44 | I | A0 | 60 | I/O | PA6 |
| 13 | WO | PC4 | 29 | I/O | D1 | 45 | I | A1 | 61 | I/O | PA7 |
| 14 | I/O | PC5 | 30 | I/O | D2 | 46 | I | A2 | 62 | I/O | PB0 |
| 15 | I/O | PC6 | 31 | — | NC | 47 | I/O | PE0 | 63 | — | NC |
| 16 | I/O | PC7 | 32 | — | NC | 48 | I/O | PE1 | 64 | — | NC |

**INPUT**

A0 - A3 : ADDRESS
XCLR : CLEAR
XCS : CHIP SELECT
XDIS : DISABLE
XRD : READ
XWR : WRITE

**INPUT/OUTPUT**

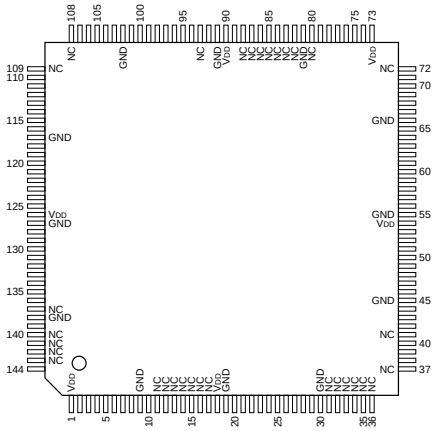
DO - 7 : DATA BUS
PA0 - A7 : PORT 1
PB0 - B7 : PORT 2
PC0 - C7 : PORT 3
PD0 - D7 : PORT 4
PE0 - E7 : PORT 5




## CXD9000CR (SONY)

C-MOS HD-SDI COPROCESSOR

—TOP VIEW—

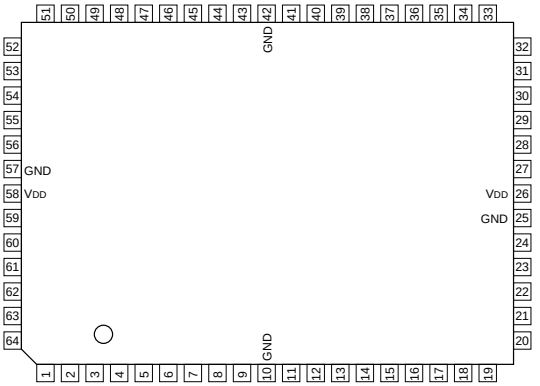


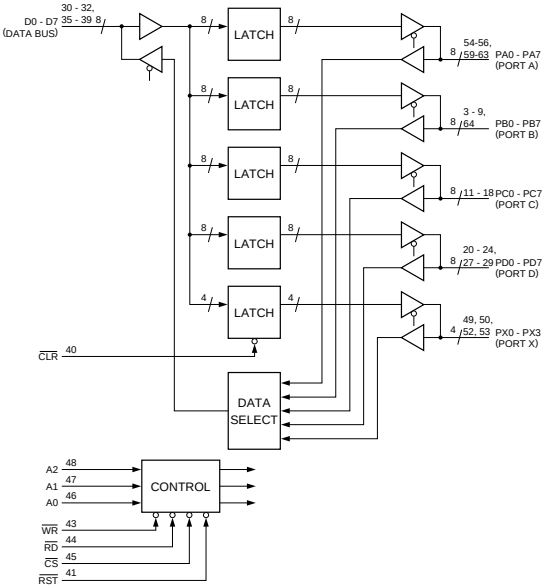

| PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | — | VDD | 37 | — | NC | 73 | — | VDD | 109 | — | NC |
| 2 | I | IP AUDA12 | 38 | O | OP AUEFLG | 74 | O | OP MYFLG1 | 110 | I | IP YDATA0 |
| 3 | I | IP AUDA34 | 39 | O | OP YADFLG | 75 | O | OP MYFLG2 | 111 | I | IP YDATA1 |
| 4 | I | IP AUDA56 | 40 | O | OP CADFLG | 76 | O | OP MYFLG3 | 112 | I | IP YDATA2 |
| 5 | I | IP AUDA78 | 41 | — | NC | 77 | O | OP MYFLG4 | 113 | I | IP YDATA3 |
| 6 | I | IP CKAUA | 42 | O | OP CK74 | 78 | O | OP MYFLG5 | 114 | I | IP YDATA4 |
| 7 | I | IP FSA | 43 | O | OP EXTV | 79 | I | IP RESET | 115 | I | IP YDATA5 |
| 8 | I | IP CKAUB | 44 | O | OP EXTH | 80 | — | NC | 116 | I | IP YDATA6 |
| 9 | — | GND | 45 | — | GND | 81 | — | GND | 117 | — | GND |
| 10 | I | IP FSB | 46 | O | OP EXTF | 82 | — | NC | 118 | I | IP YDATA7 |
| 11 | — | NC | 47 | O | OP CDATA10 | 83 | — | NC | 119 | I | IP YDATA8 |
| 12 | — | NC | 48 | O | OP CDATA9 | 84 | — | NC | 120 | I | IP YDATA9 |
| 13 | — | NC | 49 | O | OP CDATA8 | 85 | — | NC | 121 | I | IP YDATA10 |
| 14 | — | NC | 50 | O | OP CDATA7 | 86 | — | NC | 122 | I | IP CDATA0 |
| 15 | — | NC | 51 | O | OP CDATA6 | 87 | — | NC | 123 | I | IP CDATA1 |
| 16 | — | NC | 52 | O | OP CDATA5 | 88 | — | NC | 124 | I | IP CDATA2 |
| 17 | — | NC | 53 | O | OP CDATA4 | 89 | O | OP SYRW | 125 | I | IP CDATA3 |
| 18 | — | VDD | 54 | — | VDD | 90 | — | VDD | 126 | — | VDD |
| 19 | — | GND | 55 | — | GND | 91 | — | GND | 127 | — | GND |
| 20 | O | OP AUCKPH1 | 56 | O | OP CDATA3 | 92 | I | IP SYRW | 128 | I | IP CDATA4 |
| 21 | O | OP AUCKPH2 | 57 | O | OP CDATA2 | 93 | — | NC | 129 | I | IP CDATA5 |
| 22 | O | OP AUEFLG12 | 58 | O | OP CDATA1 | 94 | I | IP XMM | 130 | I | IP CDATA6 |
| 23 | O | OP AUEFLG34 | 59 | O | OP CDATA0 | 95 | I | IP SYCS | 131 | I | IP CDATA7 |
| 24 | O | OP AUEFLG56 | 60 | O | OP YDATA10 | 96 | I | IP SYCK | 132 | I | IP CDATA8 |
| 25 | O | OP AUEFLG78 | 61 | O | OP YDATA9 | 97 | I | IP SYSTA1 | 133 | I | IP CDATA9 |
| 26 | O | OP AUDA12 | 62 | O | OP YDATA8 | 98 | I | IP SYSTA0 | 134 | I | IP CDATA10 |
| 27 | O | OP AUDA34 | 63 | O | OP YDATA7 | 99 | I/O | BP SYIF7 | 135 | I | IP EXTF |
| 28 | O | OP AUDA56 | 64 | O | OP YDATA6 | 100 | I/O | BP SYIF6 | 136 | I | IP EXTH |
| 29 | O | OP AUDA78 | 65 | O | OP YDATA5 | 101 | I/O | BP SYIF5 | 137 | — | NC |
| 30 | — | GND | 66 | — | GND | 102 | — | GND | 138 | — | GND |
| 31 | — | NC | 67 | O | OP YDATA4 | 103 | I/O | BP SYIF4 | 139 | I | IP CK74 |
| 32 | — | NC | 68 | O | OP YDATA3 | 104 | I/O | BP SYIF3 | 140 | — | NC |
| 33 | — | NC | 69 | O | OP YDATA2 | 105 | I/O | BP SYIF2 | 141 | — | NC |
| 34 | — | NC | 70 | O | OP YDATA1 | 106 | I/O | BP SYIF1 | 142 | — | NC |
| 35 | — | NC | 71 | O | OP YDATA0 | 107 | I/O | BP SYIF0 | 143 | — | NC |
| 36 | — | NC | 72 | — | NC | 108 | — | NC | 144 | O | OP ERR |

CXD1095BQ (SONY)

C-MOS I/O PORT EXPANDER

—TOP VIEW—




| PIN No. | I / O | SIGNAL | PIN No. | I / O | SIGNAL | PIN No. | I / O | SIGNAL | PIN No. | I / O | SIGNAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | — | NC | 17 | I/O | PC6 | 33 | — | NC | 49 | I/O | PX0 |
| 2 | — | NC | 18 | I/O | PC7 | 34 | — | NC | 50 | I/O | PX1 |
| 3 | I/O | PB1 | 19 | — | NC | 35 | I/O | D3 | 51 | — | NC |
| 4 | I/O | PB2 | 20 | I/O | PD0 | 36 | I/O | D4 | 52 | I/O | PX2 |
| 5 | I/O | PB3 | 21 | I/O | PD1 | 37 | I/O | D5 | 53 | I/O | PX3 |
| 6 | I/O | PB4 | 22 | I/O | PD2 | 38 | I/O | D6 | 54 | I/O | PA0 |
| 7 | I/O | PB5 | 23 | I/O | PD3 | 39 | I/O | D7 | 55 | I/O | PA1 |
| 8 | I/O | PB6 | 24 | I/O | PD4 | 40 | I | $\overline{CLR}$ | 56 | I/O | PA2 |
| 9 | I/O | PB7 | 25 | — | GND | 41 | I | $\overline{RST}$ | 57 | — | GND |
| 10 | — | GND | 26 | — | VDD | 42 | — | GND | 58 | — | VDD |
| 11 | I/O | PC0 | 27 | I/O | PD5 | 43 | I | $\overline{WR}$ | 59 | I/O | PA3 |
| 12 | I/O | PC1 | 28 | I/O | PD6 | 44 | I | $\overline{RD}$ | 60 | I/O | PA4 |
| 13 | I/O | PC2 | 29 | I/O | PD7 | 45 | I | $\overline{CS}$ | 61 | I/O | PA5 |
| 14 | I/O | PC3 | 30 | I/O | D0 | 46 | I | A0 | 62 | I/O | PA6 |
| 15 | I/O | PC4 | 31 | I/O | D1 | 47 | I | A1 | 63 | I/O | PA7 |
| 16 | I/O | PC5 | 32 | I/O | D2 | 48 | I | A2 | 64 | I/O | PB0 |

| CS | RD | WR | A2 | A1 | A0 | MODE |
|---|---|---|---|---|---|---|
| 0 | 0 | 1 | 0 | 0 | 0 | PORT A → DATA BUS |
| 0 | 0 | 1 | 0 | 0 | 1 | PORT B → DATA BUS |
| 0 | 0 | 1 | 0 | 1 | 0 | PORT C → DATA BUS |
| 0 | 0 | 1 | 0 | 1 | 1 | PORT D → DATA BUS |
| 0 | 0 | 1 | 1 | 0 | 0 | PORT X → DATA BUS |
| 0 | 0 | 1 | 1 | 0 | 1 | ——— |
| 0 | 0 | 1 | 1 | 1 | 0 | ——— |
| 0 | 0 | 1 | 1 | 1 | 1 | ——— |
| 0 | 1 | 0 | 0 | 0 | 0 | DATA BUS → PORT A |
| 0 | 1 | 0 | 0 | 0 | 1 | DATA BUS → PORT B |
| 0 | 1 | 0 | 0 | 1 | 0 | DATA BUS → PORT C |
| 0 | 1 | 0 | 0 | 1 | 1 | DATA BUS → PORT D |
| 0 | 1 | 0 | 1 | 0 | 0 | DATA BUS → PORT X |
| 0 | 1 | 0 | 1 | 0 | 1 | ——— |
| 0 | 1 | 0 | 1 | 1 | 0 | DATA BUS → CTL REG. 1 |
| 0 | 1 | 0 | 1 | 1 | 1 | DATA BUS → CTL REG. 2 |
| 1 | × | × | × | × | × | DATA BUS ; HI-Z |

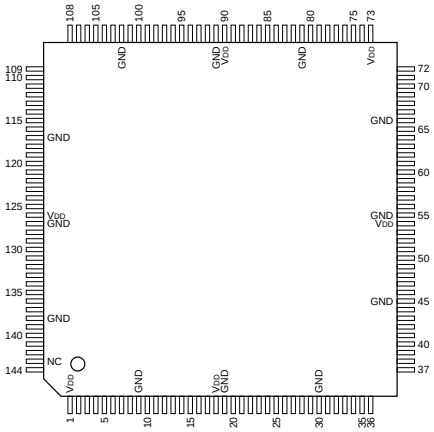
0 ; LOW LEVEL
1 ; HIGH LEVEL
× ; DON'T CARE
HI-Z ; HIGH IMPEDANCE

$\overline{D0}$ - $\overline{D7}$ ; DATA BUS INPUTS/OUTPUTS
$\overline{CS}$ ; CHIP SELECT INPUT
$\overline{RD}$ ; READ STROBE INPUT
$\overline{WR}$ ; WRITE STROBE INPUT
A0 - A2 ; ADDRESS INPUT
$\overline{RST}$ ; RESET INPUT
$\overline{CLR}$ ; CLEAR INPUT
PA0 - PA7 ; PORT A INPUTS/OUTPUTS
PB0 - PB7 ; PORT B INPUTS/OUTPUTS
PC0 - PC7 ; PORT C INPUTS/OUTPUTS
PD0 - PD7 ; PORT D INPUTS/OUTPUTS
PX0 - PX3 ; PORT X INPUTS/OUTPUTS

## CXD9013AR (SONY)

C-MOS TIMING GENERATOR

—TOP VIEW—

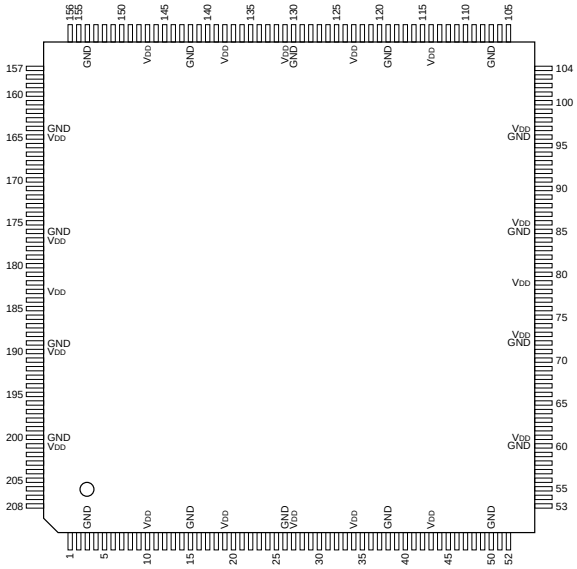


| PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | — | $V_{DD}$ | 37 | O | OP FS512 479K | 73 | — | $V_{DD}$ | 109 | O | OP VARDADT 2 |
| 2 | I | IP SYCS | 38 | O | OP AUDFRM | 74 | O | OP H1125 5 | 110 | O | OP VARDADT 3 |
| 3 | I | IP SYSTRB | 39 | O | OP CFINF | 75 | O | OP F1125 5 | 111 | O | OP VARDADT 4 |
| 4 | I | IP SYSTAT 0 | 40 | O | OP CFRM0 | 76 | O | OP H1125 6 | 112 | O | OP VARDADT 5 |
| 5 | I | IP SYSTAT 1 | 41 | O | OP CFRM1 | 77 | O | OP F1125 6 | 113 | O | OP VARDADT 6 |
| 6 | I/O | BP SYSIO 0 | 42 | O | OP H525 0 | 78 | O | OP CKO 46M | 114 | O | OP VARDADT 7 |
| 7 | I/O | BP SYSIO 1 | 43 | O | OP V525 0 | 79 | I | IP TEST4 | 115 | O | OP VARDADT 8 |
| 8 | I/O | BP SYSIO 2 | 44 | O | OP F525 0 | 80 | O | OP LOCK 46 | 116 | O | OP VARDADT 9 |
| 9 | — | GND | 45 | — | GND | 81 | — | GND | 117 | — | GND |
| 10 | I/O | BP SYSIO 3 | 46 | O | OP CKO 27M | 82 | O | OP CKO 56M | 118 | I | IP SDI F |
| 11 | I/O | BP SYSIO 4 | 47 | O | OP CKO 13M | 83 | I | IP TEST5 | 119 | I | IP SDI V |
| 12 | I/O | BP SYSIO 5 | 48 | O | $OV_{SS}$ 3 | 84 | O | OP LOCK 56 | 120 | I | IP SDI H |
| 13 | I/O | BP SYSIO 6 | 49 | O | OP VAR 27 | 85 | I | IP TEST3 | 121 | I | IP SDI FLG |
| 14 | I/O | BP SYSIO 7 | 50 | O | OP REF 27 | 86 | O | OP H1125 0 | 122 | I | IP SDI CK |
| 15 | O | $OV_{SS}$ 1 | 51 | I | XSM | 87 | O | OP F1125 0 | 123 | O | $OV_{SS}$ 5 |
| 16 | O | OP VAR 2458 | 52 | I | XTST | 88 | O | OP H1125 1 | 124 | I | IP CMP 1125 |
| 17 | O | OP REF 2458 | 53 | I | IP VCO 2700 | 89 | O | OP F1125 1 | 125 | I | IP CMP 525 |
| 18 | — | $V_{DD}$ | 54 | — | $V_{DD}$ | 90 | — | $V_{DD}$ | 126 | — | $V_{DD}$ |
| 19 | — | GND | 55 | — | GND | 91 | — | GND | 127 | — | GND |
| 20 | I | IP VCO 2458 | 56 | I | IP VCO 2703 | 92 | O | OP H1125 2 | 128 | O | SDO0 |
| 21 | I | IP RST5FRM | 57 | O | $OV_{DD}$ 2 | 93 | O | OP F1125 2 | 129 | I | IP SUBCAR |
| 22 | O | OP LR 48K | 58 | O | OP SYNC1125 0 | 94 | I | IP PLLTEST | 130 | I | IP SDIA F |
| 23 | O | OP FS64 48K | 59 | O | OP SYNC1125 1 | 95 | O | OP CKO 74M | 131 | I | IP SDIA V |
| 24 | O | OP FS128 48K | 60 | O | OP SYNC1125 2 | 96 | O | OP CKO 37M | 132 | I | IP SDIA H |
| 25 | O | OP FS256 48K | 61 | O | OP SYNC1125 3 | 97 | O | OP CKO 18M | 133 | I | IP SDIA CK |
| 26 | O | OP FS512 48K | 62 | O | OP SYNC1125 4 | 98 | O | $OV_{SS}$ 4 | 134 | I | IP TEST0 |
| 27 | O | $OV_{SS}$ 2 | 63 | O | OP SYNC1125 5 | 99 | I | IP VCO 7425 | 135 | I | IP TEST1 |
| 28 | O | OP VAR 2455 | 64 | O | OP SYNC1125 6 | 100 | O | $OV_{DD}$ 3 | 136 | I | IP TEST2 |
| 29 | O | OP REF 2455 | 65 | O | OP SYNC1125 7 | 101 | I | IP VCO 7418 | 137 | I | VPDEA |
| 30 | — | GND | 66 | — | GND | 102 | — | GND | 138 | — | GND |
| 31 | I | IP VCO 2455 | 67 | O | OP SYNC1125 8 | 103 | O | OP VAR 74 | 139 | O | OP LOCKAUD |
| 32 | O | $OV_{DD}$1 | 68 | O | OP SYNC1125 9 | 104 | O | OP REF 74 | 140 | I | IP TEST6 |
| 33 | O | OP LR 479K | 69 | O | OP H1125 3 | 105 | I | IP VARCMP 74 | 141 | I | IP TEST7 |
| 34 | O | OP FS64 479K | 70 | O | OP F1125 3 | 106 | O | OP FRUN | 142 | O | $OV_{DD}$ 4 |
| 35 | O | OP FS128 479K | 71 | O | OP H1125 4 | 107 | O | OP VARDADT 0 | 143 | — | NC |
| 36 | O | OP FS256 479K | 72 | O | OP F1125 4 | 108 | O | OP VARDADT 1 | 144 | I | IP RESET |

## CXD9014BR (SONY)

C-MOS VIDEO FILTER

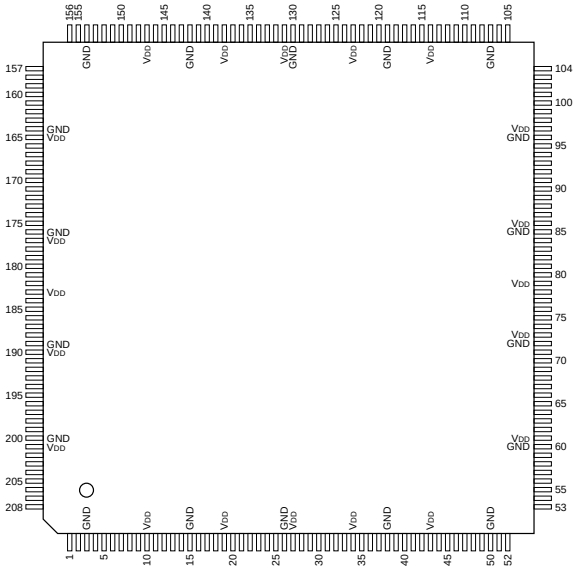
—TOP VIEW—



| PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | I | CD 1 | 53 | O | OP FRAME | 105 | I | VPD | 157 | I | ODD ID 4 |
| 2 | I | CD 0 | 54 | O | OP SYNC | 106 | I/O | SDR DATA 15 | 158 | I | ODD ID 3 |
| 3 | — | GND | 55 | O | EVEN OD 0 | 107 | — | GND | 159 | I | ODD ID 2 |
| 4 | I | DATA EN | 56 | O | EVEN OD 1 | 108 | I/O | SDR DATA 14 | 160 | I | ODD ID 1 |
| 5 | I | SDI H | 57 | O | EVEN OD 2 | 109 | I/O | SDR DATA 13 | 161 | I | ODD ID 0 |
| 6 | I | SDI F | 58 | O | EVEN OD 3 | 110 | I/O | SDR DATA 12 | 162 | I | EVEN ID 9 |
| 7 | I | REF 74F | 59 | O | EVEN OD 4 | 111 | I/O | SDR DATA 11 | 163 | I | EVEN ID 8 |
| 8 | I | REF 46F | 60 | — | GND | 112 | I/O | SDR DATA 10 | 164 | — | GND |
| 9 | I | OP ENABLE | 61 | — | $V_{DD}$ | 113 | I/O | SDR DATA 9 | 165 | — | $V_{DD}$ |
| 10 | — | $V_{DD}$ | 62 | O | EVEN OD 5 | 114 | — | $V_{DD}$ | 166 | I | EVEN ID 7 |
| 11 | I | CHIP SELECT | 63 | O | EVEN OD 6 | 115 | I/O | SDR DATA 8 | 167 | I | EVEN ID 6 |
| 12 | I | STROBE | 64 | O | EVEN OD 7 | 116 | I/O | SDR DATA 7 | 168 | I | EVEN ID 5 |
| 13 | I | STATUS 0 | 65 | O | EVEN OD 8 | 117 | I/O | SDR DATA 6 | 169 | I | EVEN ID 4 |
| 14 | I | STATUS 1 | 66 | O | EVEN OD 9 | 118 | I | VREF | 170 | I | EVEN ID 3 |
| 15 | — | GND | 67 | O | ODD OD 0 | 119 | — | GND | 171 | I | EVEN ID 2 |
| 16 | I/O | SYS BUS 0 | 68 | O | ODD OD 1 | 120 | I/O | SDR DATA 5 | 172 | I | EVEN ID 1 |
| 17 | I/O | SYS BUS 1 | 69 | O | ODD OD 2 | 121 | I/O | SDR DATA 4 | 173 | I | EVEN ID 0 |
| 18 | I/O | SYS BUS 2 | 70 | O | ODD OD 3 | 122 | I/O | SDR DATA 3 | 174 | O | VS1 |
| 19 | — | $V_{DD}$ | 71 | O | ODD OD 4 | 123 | — | $V_{DD}$ | 175 | O | VDI1 |
| 20 | I/O | SYS BUS 3 | 72 | — | GND | 124 | I/O | SDR DATA 2 | 176 | — | GND |
| 21 | I/O | SYS BUS 4 | 73 | — | $V_{DD}$ | 125 | I/O | SDR DATA 1 | 177 | — | $V_{DD}$ |
| 22 | I/O | SYS BUS 5 | 74 | O | ODD OD 5 | 126 | I/O | SDR DATA 0 | 178 | O | VS2 |
| 23 | I/O | SYS BUS 6 | 75 | O | ODD OD 6 | 127 | O | SDR DQM | 179 | O | VDI2 |
| 24 | I/O | SYS BUS 7 | 76 | O | ODD OD 7 | 128 | O | SDR WE | 180 | I | IP HSYNC |
| 25 | O | F | 77 | O | ODD OD 8 | 129 | O | SDR CK | 181 | I | RESET |
| 26 | — | GND | 78 | O | ODD OD 9 | 130 | — | GND | 182 | I | PLLS |
| 27 | — | VDD | 79 | — | VDD | 131 | — | $V_{DD}$ | 183 | — | $V_{DD}$ |
| 28 | O | H | 80 | I | XSM | 132 | O | SDR CAS | 184 | I | SMCK |
| 29 | O | CD 0 | 81 | I | XTST | 133 | O | SDR CKE | 185 | I | CK46 |
| 30 | O | CD 1 | 82 | I | DUB FRAME | 134 | O | SDR RAS | 186 | I | CK74 |
| 31 | O | CD 2 | 83 | I | DUB SYNC | 135 | O | SDR CS | 187 | I | YD 9 |
| 32 | O | CD 3 | 84 | I | MST | 136 | O | SDR ADDR 11 | 188 | I | YD 8 |
| 33 | O | CD 4 | 85 | — | GND | 137 | O | SDR ADDR 10 | 189 | — | GND |
| 34 | — | $V_{DD}$ | 86 | — | $V_{DD}$ | 138 | — | $V_{DD}$ | 190 | — | $V_{DD}$ |
| 35 | O | CD 5 | 87 | I | DUB BD 0 | 139 | O | SDR ADDR 9 | 191 | I | YD 7 |
| 36 | O | CD 6 | 88 | I | DUB BD 1 | 140 | O | SDR ADDR 8 | 192 | I | YD 6 |
| 37 | O | CD 7 | 89 | I | DUB BD 2 | 141 | O | SDR ADDR 7 | 193 | I | YD 5 |
| 38 | — | GND | 90 | I | DUB BD 3 | 142 | — | GND | 194 | I | YD 4 |
| 39 | O | CD 8 | 91 | I | DUB BD 4 | 143 | O | SDR ADDR 6 | 195 | I | YD 3 |
| 40 | O | CD 9 | 92 | I | DUB BD 5 | 144 | O | SDR ADDR 5 | 196 | I | YD 2 |
| 41 | O | YD 0 | 93 | I | DUB BD 6 | 145 | O | SDR ADDR 4 | 197 | I | YD 1 |
| 42 | O | YD 1 | 94 | I | DUB BD 7 | 146 | O | SDR ADDR 3 | 198 | I | YD 0 |
| 43 | — | VDD | 95 | I | DUB AD 0 | 147 | — | $V_{DD}$ | 199 | I | CD 9 |
| 44 | O | YD 2 | 96 | — | GND | 148 | O | SDR ADDR 2 | 200 | — | GND |
| 45 | O | YD 3 | 97 | — | $V_{DD}$ | 149 | O | SDR ADDR 1 | 201 | — | VDD |
| 46 | O | YD 4 | 98 | I | DUB AD 1 | 150 | O | SDR ADDR 0 | 202 | I | CD 8 |
| 47 | O | YD 5 | 99 | I | DUB AD 2 | 151 | I | ODD ID 9 | 203 | I | CD 7 |
| 48 | O | YD 6 | 100 | I | DUB AD 3 | 152 | I | ODD ID 8 | 204 | I | CD 6 |
| 49 | O | YD 7 | 101 | I | DUB AD 4 | 153 | I | ODD ID 7 | 205 | I | CD 5 |
| 50 | — | GND | 102 | I | DUB AD 5 | 154 | — | GND | 206 | I | CD 4 |
| 51 | O | YD 8 | 103 | I | DUB AD 6 | 155 | I | ODD ID 6 | 207 | I | CD 3 |
| 52 | O | YD 9 | 104 | I | DUB AD 7 | 156 | I | ODD ID 5 | 208 | I | CD 2 |

## CXD9017BR (SONY)

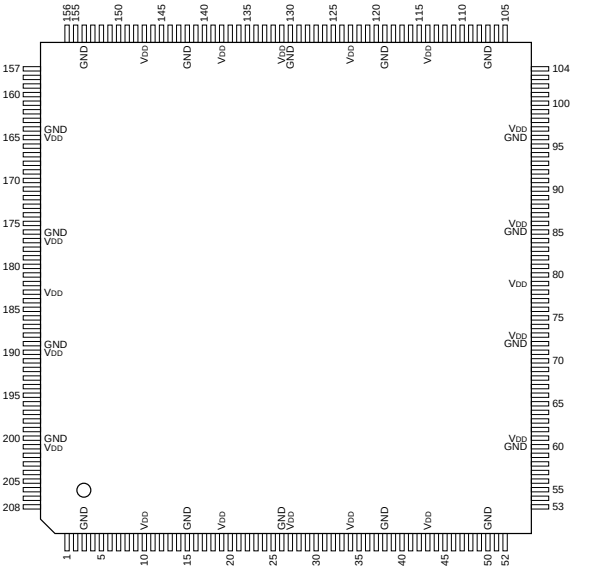
C-MOS VIDEO CONCEALMENT
—TOP VIEW—



| PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | I | IP SYS STATUS 0 | 53 | O | OP SDRAM CS | 105 | I | IP VIDEO B 2 | 157 | O | OP VIDEO 13 |
| 2 | I | IP SYS STATUS 1 | 54 | O | OP SDRAM RAS | 106 | I | IP VIDEO B 3 | 158 | O | OP VIDEO 12 |
| 3 | — | GND | 55 | O | OVDD 2 | 107 | — | GND | 159 | O | OVSS 13 |
| 4 | O | OVDD 0 | 56 | O | OVSS 4 | 108 | I | IP VIDEO B 4 | 160 | O | OP VIDEO 11 |
| 5 | I/O | BP SDRAM DAT 0 | 57 | O | OP SDRAM CAS | 109 | I | IP VIDEO B 5 | 161 | O | OP VIDEO 10 |
| 6 | I/O | BP SDRAM DAT 1 | 58 | O | OP SDRAM WE | 110 | I | IP VIDEO B 6 | 162 | O | OP VIDEO 9 |
| 7 | I/O | BP SDRAM DAT 2 | 59 | O | OP SDRAM CKE | 111 | I | IP VIDEO B 7 | 163 | O | OP VIDEO 8 |
| 8 | I/O | BP SDRAM DAT 3 | 60 | — | GND | 112 | O | OP FIFO WRST | 164 | — | GND |
| 9 | I/O | BP SDRAM DAT 4 | 61 | — | VDD | 113 | O | OVSS 9 | 165 | — | VDD |
| 10 | — | VDD | 62 | O | OP SDRAM DQM | 114 | — | VDD | 166 | O | OP VIDEO 7 |
| 11 | O | OVSS 0 | 63 | O | OP SDRAM CK | 115 | O | OP FIFO WCK A | 167 | O | OP VIDEO 6 |
| 12 | I/O | BP SDRAM DAT 5 | 64 | O | OP SDRAM ADDR 0 | 116 | O | OP FIFO RCK A | 168 | O | OP VIDEO 5 |
| 13 | I/O | BP SDRAM DAT 6 | 65 | O | OP SDRAM ADDR 1 | 117 | O | OP FIFO OE A | 169 | O | OP VIDEO 4 |
| 14 | I/O | BP SDRAM DAT 7 | 66 | O | OVDD 3 | 118 | O | OP FIFO WE A | 170 | O | OVSS 14 |
| 15 | — | GND | 67 | O | OVSS 5 | 119 | — | GND | 171 | O | OP VIDEO 3 |
| 16 | I | IP SDRAM REF 0 | 68 | O | OP SDRAM ADDR 2 | 120 | O | OP FIFO RE A | 172 | O | OP VIDEO 2 |
| 17 | I/O | BP SDRAM DAT 8 | 69 | O | OP SDRAM ADDR 3 | 121 | O | OP FIFO WCK B | 173 | O | OP VIDEO 1 |
| 18 | I/O | BP SDRAM DAT 9 | 70 | O | OP SDRAM ADDR 4 | 122 | O | OP FIFO RCK B | 174 | O | OP VIDEO 0 |
| 19 | — | VDD | 71 | O | OP SDRAM ADDR 5 | 123 | — | VDD | 175 | O | OP Q INDEX 3 |
| 20 | O | OVSS 1 | 72 | — | GND | 124 | O | OVSS 10 | 176 | — | GND |
| 21 | I/O | BP SDRAM DAT 10 | 73 | — | VDD | 125 | O | OP FIFO OE B | 177 | — | VDD |
| 22 | I/O | BP SDRAM DAT 11 | 74 | O | OP SDRAM ADDR 6 | 126 | O | OP FIFO WE B | 178 | O | OP Q INDEX 2 |
| 23 | I/O | BP SDRAM DAT 12 | 75 | O | OP SDRAM ADDR 7 | 127 | O | OP FIFO RE B | 179 | O | OP Q INDEX 1 |
| 24 | I/O | BP SDRAM DAT 13 | 76 | O | OP SDRAM ADDR 8 | 128 | I | IP CONCEAL CTL 0 | 180 | O | OP Q INDEX 0 |
| 25 | I/O | BP SDRAM DAT 14 | 77 | O | OP SDRAM ADDR 9 | 129 | I | IP CONCEAL CTL 1 | 181 | O | OP HD SYNC |
| 26 | — | GND | 78 | O | OVSS 6 | 130 | — | GND | 182 | O | OP SUB HD SYNC |
| 27 | — | VDD | 79 | — | VDD | 131 | — | VDD | 183 | — | VDD |
| 28 | I/O | BP SDRAM DAT 15 | 80 | O | OP SDRAM ADDR 10 | 132 | I | IP CONCEAL CTL 2 | 184 | O | OVDD 5 |
| 29 | I/O | BP SDRAM DAT 16 | 81 | O | OP SDRAM ADDR 11 | 133 | I | IP OUTPUT MASK | 185 | I | IP CKL SEL |
| 30 | I/O | BP SDRAM DAT 17 | 82 | I | IP HD SYNC A | 134 | I | IP FREEZE CTL 0 | 186 | O | OVSS 15 |
| 31 | I/O | BP SDRAM DAT 18 | 83 | I | IP Q INDEX A 0 | 135 | I | IP FREEZE CTL 1 | 187 | I | IP CLK74 |
| 32 | I/O | BP SDRAM DAT 19 | 84 | I | IP Q INDEX A 1 | 136 | I | IP FREEZE CTL 2 | 188 | O | OVDD PLL |
| 33 | O | OVSS 2 | 85 | — | GND | 137 | O | OVSS 11 | 189 | — | GND |
| 34 | — | VDD | 86 | — | VDD | 138 | — | VDD | 190 | — | VDD |
| 35 | I/O | BP SDRAM DAT 20 | 87 | I | IP VIDEO A 0 | 139 | O | OP PLL FF | 191 | O | OVSS PLL |
| 36 | I/O | BP SDRAM DAT 21 | 88 | I | IP VIDEO A 1 | 140 | O | OP FIFO RRST | 192 | I | IP CKL46 |
| 37 | I/O | BP SDRAM DAT 22 | 89 | I | IP VIDEO A 2 | 141 | I | SDI0 | 193 | O | OVDD 6 |
| 38 | — | GND | 90 | I | IP VIDEO A 3 | 142 | — | GND | 194 | I | IP SYSTEM RESET |
| 39 | I/O | BP SDRAM DAT 23 | 91 | O | OVSS 7 | 143 | I | SDI1 | 195 | I | IP RAM INIT |
| 40 | I | IP SDRAM REF 1 | 92 | I | IP VIDEO A 4 | 144 | O | SDO0 | 196 | I/O | BP SYS DATA 7 |
| 41 | I/O | BP SDRAM DAT 24 | 93 | I | IP VIDEO A 5 | 145 | O | SDO1 | 197 | I/O | BP SYS DATA 6 |
| 42 | I/O | BP SDRAM DAT 25 | 94 | I | IP VIDEO A 6 | 146 | I | XSM | 198 | I/O | BP SYS DATA 5 |
| 43 | — | VDD | 95 | I | IP VIDEO A 7 | 147 | — | VDD | 199 | I/O | BP SYS DATA 4 |
| 44 | O | OVSS 3 | 96 | — | GND | 148 | O | OVSS 12 | 200 | — | GND |
| 45 | I/O | BP SDRAM DAT 26 | 97 | — | VDD | 149 | I | XTST | 201 | — | VDD |
| 46 | I/O | BP SDRAM DAT 27 | 98 | I | IP HD SYNC B | 150 | I | SMCK | 202 | I/O | BP SYS DATA 3 |
| 47 | I/O | BP SDRAM DAT 28 | 99 | I | IP Q INDEX B 0 | 151 | I | MST | 203 | I/O | BP SYS DATA 2 |
| 48 | I/O | BP SDRAM DAT 29 | 100 | I | IP Q INDEX B 1 | 152 | I | IP OE | 204 | I/O | BP SYS DATA 1 |
| 49 | O | OVDD 1 | 101 | I | IP VIDEO B 0 | 153 | I | IP VP | 205 | O | OVSS 16 |
| 50 | — | GND | 102 | O | OVSS 8 | 154 | — | GND | 206 | I/O | BP SYS DATA 0 |
| 51 | I/O | BP SDRAM DAT 30 | 103 | O | OVDD 4 | 155 | O | OP VIDEO 15 | 207 | I | IP SYS CS |
| 52 | I/O | BP SDRAM DAT 31 | 104 | I | IP VIDEO B 1 | 156 | O | OP VIDEO 14 | 208 | I | IP SYS STROBE |

## CXD9019AR (SONY)

C-MOS BIT REDUCTION ENCODER
—TOP VIEW—



| PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | I | IP TBUS10 | 53 | I | SDI | 105 | O | VD2 4 | 157 | O | VD2 8 |
| 2 | I | IP TBUS11 | 54 | I | SM | 106 | I/O | BI EXT D15 | 158 | O | OP EXT A3 |
| 3 | — | GND | 55 | I | SMCK | 107 | — | GND | 159 | O | OP EXT A2 |
| 4 | I | IP TBUS12 | 56 | O | VS1 1 | 108 | I/O | BI EXT D14 | 160 | O | OP EXT A1 |
| 5 | I | IP TBUS13 | 57 | O | OP TBUS0 | 109 | I/O | BI EXT D13 | 161 | O | OP EXT A0 |
| 6 | I | IP TBUS14 | 58 | O | OP TBUS1 | 110 | I/O | BI EXT D12 | 162 | I | IP IH |
| 7 | I | IP TBUS15 | 59 | O | OP TBUS2 | 111 | I/O | BI EXT D11 | 163 | I | IP VID0 |
| 8 | I | IP TBUS16 | 60 | — | GND | 112 | I/O | BI EXT D10 | 164 | — | GND |
| 9 | I | IP TBUS17 | 61 | — | VDD | 113 | O | VS1 6 | 165 | — | VDD |
| 10 | — | VDD | 62 | O | OP TBUS3 | 114 | — | VDD | 166 | I | IP VID1 |
| 11 | I | IP TBUS18 | 63 | O | OP TBUS4 | 115 | I/O | BI EXT D9 | 167 | I | IP VID2 |
| 12 | I | IP TBUS19 | 64 | O | OP TBUS5 | 116 | I/O | BI EXT D8 | 168 | I | IP VID3 |
| 13 | I | IP TBUS20 | 65 | O | OP TBUS6 | 117 | I/O | BI EXT D7 | 169 | I | IP VID4 |
| 14 | I | IP TBUS21 | 66 | O | VS1 2 | 118 | I | VREF IN | 170 | I | IP VID5 |
| 15 | — | GND | 67 | O | OP TBUS7 | 119 | — | GND | 171 | I | IP VID6 |
| 16 | I | IP TBUS22 | 68 | O | OP TBUS8 | 120 | O | VD2 5 | 172 | I | IP VID7 |
| 17 | I | IP TBUS23 | 69 | O | OP TBUS9 | 121 | I/O | BI EXT D6 | 173 | I | IP H SYNC |
| 18 | I | IP TBUS24 | 70 | O | OP TBUS10 | 122 | I/O | BI EXT D5 | 174 | O | VD1 1 |
| 19 | — | VDD | 71 | O | VD2 2 | 123 | — | VDD | 175 | I | CLK TST1 |
| 20 | I | IP TBUS25 | 72 | — | GND | 124 | I/O | BI EXT D4 | 176 | — | GND |
| 21 | I | IP TBUS26 | 73 | — | VDD | 125 | I/O | BI EXT D3 | 177 | — | VDD |
| 22 | I | IP TBUS27 | 74 | O | OP TBUS11 | 126 | O | VS1 7 | 178 | O | VS1 9 |
| 23 | I | IP TBUS28 | 75 | O | OP TBUS12 | 127 | I/O | BI EXT D2 | 179 | O | VD1 2 |
| 24 | I | IP TBUS29 | 76 | O | OP TBUS13 | 128 | I/O | BI EXT D1 | 180 | I | CK VID |
| 25 | I | IP TOMX0 | 77 | O | OP TBUS14 | 129 | I/O | BI EXT D0 | 181 | O | VS1 10 |
| 26 | — | GND | 78 | O | OP TBUS15 | 130 | — | GND | 182 | I | CLR SYS |
| 27 | — | VDD | 79 | — | VDD | 131 | — | VDD | 183 | — | VDD |
| 28 | I | IP TOMX1 | 80 | O | VS1 3 | 132 | O | DIR OUT | 184 | I | CLK TST0 |
| 29 | I | IP TOMX2 | 81 | O | OP TBUS16 | 133 | I | DIR IN | 185 | I | IP SEL |
| 30 | I | IP TOMX3 | 82 | O | OP TBUS17 | 134 | O | VD2 6 | 186 | O | OP SEL |
| 31 | I | IP TSEL0 | 83 | O | OP TBUS18 | 135 | I | IP EXT CLK | 187 | I | IP LOFFSEL |
| 32 | I | IP TSEL1 | 84 | O | OP TBUS19 | 136 | O | VS1 8 | 188 | O | OP LOCK |
| 33 | I | IP TSEL2 | 85 | — | GND | 137 | O | OP EXT DQM | 189 | — | GND |
| 34 | — | VDD | 86 | — | VDD | 138 | — | VDD | 190 | — | VDD |
| 35 | I | IP TSEL3 | 87 | O | SDO | 139 | O | OP EXT WE | 191 | O | OP PLLFF |
| 36 | I | IP CS | 88 | O | OP SEG P | 140 | O | VD2 7 | 192 | I | IP TEN |
| 37 | I | IP STRB | 89 | O | OP FRM P | 141 | O | OP EXT CK | 193 | O | OP TIMX0 |
| 38 | — | GND | 90 | O | OP SYNC | 142 | — | GND | 194 | O | OP TIMX1 |
| 39 | I | IP STAT0 | 91 | O | VD2 3 | 143 | O | OP EXT CAS | 195 | O | OP TIMX2 |
| 40 | I | IP STAT1 | 92 | O | VD1 4 | 144 | O | OP EXT RAS | 196 | O | OP TIMX3 |
| 41 | I/O | BI SYSIO0 | 93 | O | OP CVID0 | 145 | O | OP EXT CS2 | 197 | O | OP TBUS0 |
| 42 | I/O | BI SYSIO1 | 94 | O | OP CVID1 | 146 | O | OP EXT CS1 | 198 | O | OP TBUS1 |
| 43 | — | VDD | 95 | O | OP CVID2 | 147 | — | VDD | 199 | O | OP TBUS2 |
| 44 | I/O | BI SYSIO2 | 96 | — | GND | 148 | O | OP EXT A11 | 200 | — | GND |
| 45 | I/O | BI SYSIO3 | 97 | — | VDD | 149 | O | OP EXT A10 | 201 | — | VDD |
| 46 | I/O | BI SYSIO4 | 98 | O | OP CVID3 | 150 | O | OP EXT A9 | 202 | I | IP TBUS3 |
| 47 | I/O | BI SYSIO5 | 99 | O | OP CVID4 | 151 | O | OP EXT A8 | 203 | I | IP TBUS4 |
| 48 | I/O | BI SYSIO6 | 100 | O | OP CVID5 | 152 | O | OP EXT A7 | 204 | I | IP TBUS5 |
| 49 | O | VD2 1 | 101 | O | OP CVID6 | 153 | O | OP EXT A6 | 205 | I | IP TBUS6 |
| 50 | — | GND | 102 | O | OP CVID7 | 154 | — | GND | 206 | I | IP TBUS7 |
| 51 | I/O | BI SYSIO7 | 103 | O | VS1 5 | 155 | O | OP EXT A5 | 207 | I | IP TBUS8 |
| 52 | I | MST | 104 | I | VPD | 156 | O | OP EXT A4 | 208 | I | IP TBUS9 |

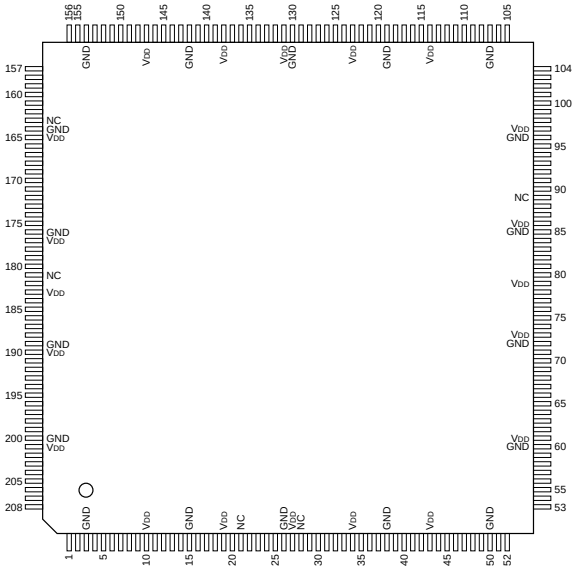
http://getMANUAL.com



## CXD9020CR (SONY)

C-MOS BIT REDUCTION DECODER

—TOP VIEW—

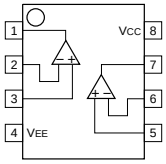


| PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | O | OP TBUS3 | 53 | I | IP TBUS9 | 105 | O | VD2 2 | 157 | O | VD2 6 |
| 2 | O | OP TBUS2 | 54 | I | IP TBUS10 | 106 | I/O | BI EXT D15 | 158 | O | OP EXT A3 |
| 3 | — | GND | 55 | I | IP TBUS11 | 107 | — | GND | 159 | O | OP EXT A2 |
| 4 | O | VD2 1 | 56 | I | IP TBUS12 | 108 | I/O | BI EXT D14 | 160 | O | OP EXT A1 |
| 5 | O | OP TBUS1 | 57 | I | IP TBUS13 | 109 | I/O | BI EXT D13 | 161 | O | OP EXT A0 |
| 6 | O | OP TBUS0 | 58 | I | IP TBUS14 | 110 | I/O | BI EXT D12 | 162 | I | IP IH |
| 7 | I | MMS 0 | 59 | I | IP TBUS15 | 111 | I/O | BI EXT D11 | 163 | — | NC |
| 8 | I | MMS 1 | 60 | — | GND | 112 | I/O | BI EXT D10 | 164 | — | GND |
| 9 | I | MMS 2 | 61 | — | VDD | 113 | O | VS1 3 | 165 | — | VDD |
| 10 | — | VDD | 62 | I | IP TBUS16 | 114 | — | VDD | 166 | O | OP VID7 |
| 11 | I | MST | 63 | I | IP TBUS17 | 115 | I/O | BI EXT D9 | 167 | O | OP VID6 |
| 12 | I | SM | 64 | I | IP TOMX0 | 116 | I/O | BI EXT D8 | 168 | O | OP VID5 |
| 13 | I | SMCK | 65 | I | IP TOMX1 | 117 | I/O | BI EXT D7 | 169 | O | OP VID4 |
| 14 | I | SDI | 66 | I | IP TSEL0 | 118 | I | VREF IN | 170 | O | VS1 6 |
| 15 | — | GND | 67 | I | IP TSEL1 | 119 | — | GND | 171 | O | VD2 7 |
| 16 | O | SDO | 68 | I | IP TSEL2 | 120 | O | VD2 3 | 172 | O | OP VID3 |
| 17 | I | MMS 3 | 69 | I | IP TSEL3 | 121 | I/O | BI EXT D6 | 173 | O | OP VID2 |
| 18 | I | VPD | 70 | I | IP TSEL4 | 122 | I/O | BI EXT D5 | 174 | O | OP VID1 |
| 19 | — | VDD | 71 | O | OP PLLFF | 123 | — | VDD | 175 | O | OP VID0 |
| 20 | I | MMS 4 | 72 | — | GND | 124 | O | VS1 4 | 176 | — | GND |
| 21 | — | NC | 73 | — | VDD | 125 | I/O | BI EXT D4 | 177 | — | VDD |
| 22 | I | IP CS | 74 | O | OP LOCK | 126 | I/O | BI EXT D3 | 178 | O | OP QI1 |
| 23 | I | IP STRB | 75 | I | IP LOFFSEL | 127 | I/O | BI EXT D2 | 179 | O | OP QI0 |
| 24 | I | IP STAT0 | 76 | O | OP SEL | 128 | I/O | BI EXT D1 | 180 | O | OP H SYNC |
| 25 | I | IP STAT1 | 77 | I | IP SEL | 129 | I/O | BI EXT D0 | 181 | — | NC |
| 26 | — | GND | 78 | I | CLK TST0 | 130 | — | GND | 182 | O | VS1 7 |
| 27 | — | VDD | 79 | — | VDD | 131 | — | VDD | 183 | — | VDD |
| 28 | — | NC | 80 | I | CLR SYS | 132 | O | DIR OUT | 184 | O | OP TBUS20 |
| 29 | I/O | BI SYSIO0 | 81 | O | VS1 1 | 133 | I | DIR IN | 185 | O | OP TBUS19 |
| 30 | I/O | BI SYSIO1 | 82 | I | CK VID | 134 | O | VD2 4 | 186 | O | OP TBUS18 |
| 31 | I/O | BI SYSIO2 | 83 | O | VS1 PLL | 135 | I/O | IP EXT CLK | 187 | O | OP TBUS17 |
| 32 | I/O | BI SYSIO3 | 84 | O | VD1 PLL | 136 | O | VS1 5 | 188 | O | VD1 8 |
| 33 | I/O | BI SYSIO4 | 85 | — | GND | 137 | O | IP EXT DQM | 189 | — | GND |
| 34 | — | VDD | 86 | — | VDD | 138 | — | VDD | 190 | — | VDD |
| 35 | I/O | BI SYSIO5 | 87 | I | CLK TST1 | 139 | O | IP EXT WE | 191 | O | OP TBUS16 |
| 36 | I/O | BI SYSIO6 | 88 | O | VD1 1 | 140 | O | VD2 5 | 192 | O | OP TBUS15 |
| 37 | I/O | BI SYSIO7 | 89 | — | NC | 141 | O | OP EXT CK | 193 | O | OP TBUS14 |
| 38 | — | GND | 90 | I | IP F0 F1 | 142 | — | GND | 194 | O | OP TBUS13 |
| 39 | I | IP TEN | 91 | I | IP FRM P | 143 | O | OP EXT CAS | 195 | O | VS1 8 |
| 40 | I | IP TIMX0 | 92 | I | IP SYNC | 144 | O | OP EXT RAS | 196 | O | OP TBUS12 |
| 41 | I | IP TIMX1 | 93 | I | IP CERR | 145 | O | OP EXT CS2 | 197 | O | OP TBUS11 |
| 42 | I | IP TBUS0 | 94 | I | IP CVID0 | 146 | O | OP EXT CS1 | 198 | O | OP TBUS10 |
| 43 | — | VDD | 95 | I | IP CVID1 | 147 | — | VDD | 199 | O | OP TBUS9 |
| 44 | I | IP TBUS1 | 96 | — | GND | 148 | O | OP EXT A11 | 200 | — | GND |
| 45 | I | IP TBUS2 | 97 | — | VDD | 149 | O | OP EXT A10 | 201 | — | VDD |
| 46 | I | IP TBUS3 | 98 | I | IP CVID2 | 150 | O | OP EXT A9 | 202 | O | OP TBUS8 |
| 47 | I | IP TBUS4 | 99 | I | IP CVID3 | 151 | O | OP EXT A8 | 203 | O | OP TBUS7 |
| 48 | I | IP TBUS5 | 100 | I | IP CVID4 | 152 | O | OP EXT A7 | 204 | O | OP TBUS6 |
| 49 | I | IP TBUS6 | 101 | I | IP CVID5 | 153 | O | OP EXT A6 | 205 | O | OP TBUS5 |
| 50 | — | GND | 102 | I | IP CVID6 | 154 | — | GND | 206 | O | OP TBUS4 |
| 51 | I | IP TBUS7 | 103 | I | IP CVID7 | 155 | O | OP EXT A5 | 207 | O | VD2 9 |
| 52 | I | IP TBUS8 | 104 | O | VS1 2 | 156 | O | OP EXT A4 | 208 | O | VS1 9 |

## EL2244CS (ELANTEC)
## EL2244CS-TE2

DUAL OPERATIONAL AMPLIFIERS
(SINGLE-SUPPLY TYPE)

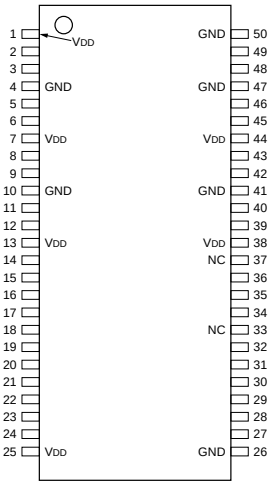
—TOP VIEW—




## KM416S1020CT-G10T (SAMSUNG)

C-MOS 16 M (1,048,576 × 16)-BIT SYNCRONOUS DRAM

—TOP VIEW—




| PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL |
|---|---|---|---|---|---|
| 1 | — | VDD | 26 | — | GND |
| 2 | I/O | DQ0 | 27 | I | A4 |
| 3 | I/O | DQ1 | 28 | I | A5 |
| 4 | — | GND | 29 | I | A6 |
| 5 | I/O | DQ2 | 30 | I | A7 |
| 6 | I/O | DQ3 | 31 | I | A8 |
| 7 | — | VDD | 32 | I | A9 |
| 8 | I/O | DQ4 | 33 | — | NC |
| 9 | I/O | DQ5 | 34 | I | CKE |
| 10 | — | GND | 35 | I | CLK |
| 11 | I/O | DQ6 | 36 | I | UDQM |
| 12 | I/O | DQ7 | 37 | — | NC/RFU |
| 13 | — | VDD | 38 | — | VDD |
| 14 | I | LDQM | 39 | I/O | DQ8 |
| 15 | I | $\overline{WE}$ | 40 | I/O | DQ9 |
| 16 | I | $\overline{CAS}$ | 41 | — | GND |
| 17 | I | $\overline{RAS}$ | 42 | I/O | DQ10 |
| 18 | I | $\overline{CS}$ | 43 | I/O | DQ11 |
| 19 | I | A11 (BA) | 44 | — | VDD |
| 20 | I | A10/AP* | 45 | I/O | DQ12 |
| 21 | I | A0 | 46 | I/O | DQ13 |
| 22 | I | A1 | 47 | — | GND |
| 23 | I | A2 | 48 | I/O | DQ14 |
| 24 | I | A3 | 49 | I/O | DQ15 |
| 25 | — | VDD | 50 | — | GND |

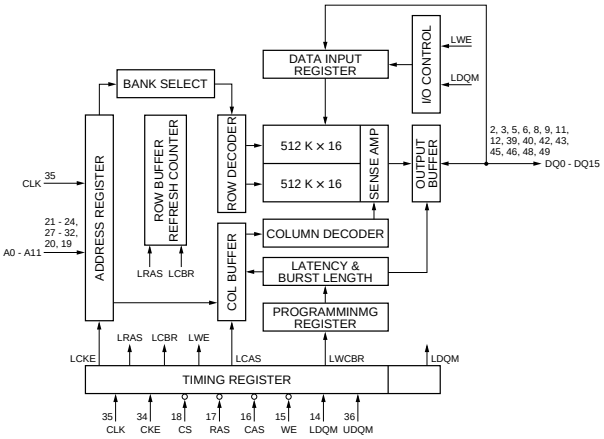
*NOTE
KM416S1020BT-G10T : A10
KM416S1020CT-G10T : A10/AP

**INPUT**

| | | |
|---|---|---|
| A0 -A10 | : | ADDRESS |
| A11 (BA) | : | BANK SELECT ADDRESS |
| $\overline{CAS}$ | : | COLUMN ADDRESS STROBE |
| CKE | : | CLOCK ENABLE |
| CLK | : | SYSTEM CLOCK |
| $\overline{CS}$ | : | CHIP SELECT |
| LDQM, UDQM | : | DATA INPUT/OUTPUT MASK |
| $\overline{RAS}$ | : | ROW ADDRESS STROBE |
| $\overline{WE}$ | : | WRITE ENABLE |

**INPUT/OUTPUT**

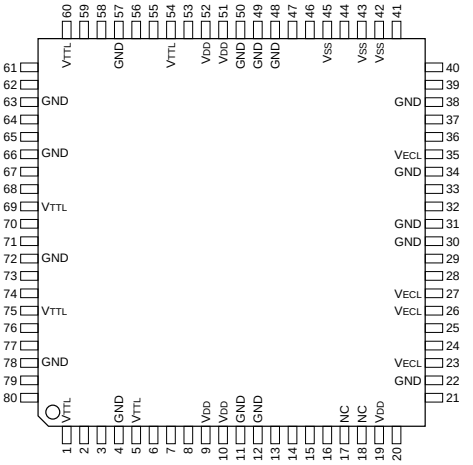
| | | |
|---|---|---|
| DQ0 - DQ15 | : | DATA |

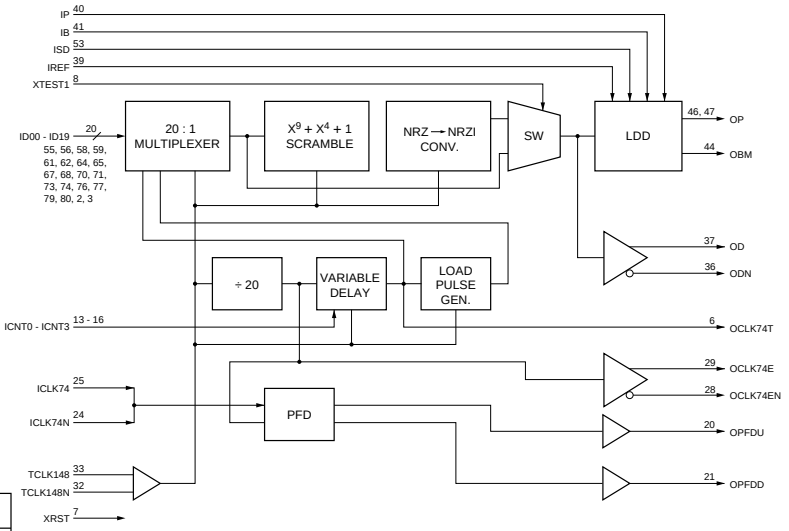


CXG8003Q (SONY)

1.5 Gbps TRANSMITTER

—TOP VIEW—




| PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | — | VTTL | 21 | O | OPFDD | 41 | I | IB | 61 | I | ID04 |
| 2 | I | ID18 | 22 | — | GND | 42 | — | VSS | 62 | I | ID05 |
| 3 | I | ID19 | 23 | — | VECL | 43 | — | VSS | 63 | — | GND |
| 4 | — | GND | 24 | I | ICLK74N | 44 | O | OBM | 64 | I | ID06 |
| 5 | — | VTTL | 25 | I | ICLK74 | 45 | — | VSS | 65 | I | ID07 |
| 6 | O | OCLK74T | 26 | — | VECL | 46 | O | OP | 66 | — | GND |
| 7 | I | XRST | 27 | — | VECL | 47 | O | OP | 67 | I | ID08 |
| 8 | I | XTEST1 | 28 | O | OCLK74EN | 48 | — | GND | 68 | I | ID09 |
| 9 | — | VDD | 29 | O | OCLK74E | 49 | — | GND | 69 | — | VTTL |
| 10 | — | VDD | 30 | — | GND | 50 | — | GND | 70 | I | ID10 |
| 11 | — | GND | 31 | — | GND | 51 | — | VDD | 71 | I | ID11 |
| 12 | — | GND | 32 | I | TCLK148N | 52 | — | VDD | 72 | — | GND |
| 13 | I | ICNT0 | 33 | I | TCLK148 | 53 | I | ISD | 73 | I | ID12 |
| 14 | I | ICNT1 | 34 | — | GND | 54 | — | VTTL | 74 | I | ID13 |
| 15 | I | ICNT2 | 35 | — | VECL | 55 | I | ID00 | 75 | — | VTTL |
| 16 | I | ICNT3 | 36 | O | ODN | 56 | I | ID01 | 76 | I | ID14 |
| 17 | — | NC | 37 | O | OD | 57 | — | GND | 77 | I | ID15 |
| 18 | — | NC | 38 | — | GND | 58 | I | ID02 | 78 | — | GND |
| 19 | — | VDD | 39 | I | IREF | 59 | I | ID03 | 79 | I | ID16 |
| 20 | O | OPFDU | 40 | I | IP | 60 | — | VTTL | 80 | I | ID17 |

**INPUTS**

IB : LD DRIVER BIAS CURRENT CONTROL
ICLK74 : PLL REFERENCE CLOCK (74.25 MHz)
ICLK74N : INVERTED PLL REFERENCE CLOCK (74.25 MHz)
ICNT0 - ICNT3 : PARALLEL CLOCK DELAY CONTROL
ID00 - ID19 : 20 BITS PARALLEL SIGNAL
IP : LD DRIVER PEAK CURRENT CONTROL
IREF : LD DRIVER DUTY CONTROL
ISD : LD DRIVER OUTPUT CONTROL
TCLK148 : EXTERNAL CLOCK (1.485 GHz)
TCLK148N : INVERTED EXTERNAL CLOCK (1.485 GHz)
XRST : RESET
XTEST1 : SCRAMBLE/NRZ TO NRZI CONVERSION CONTROL

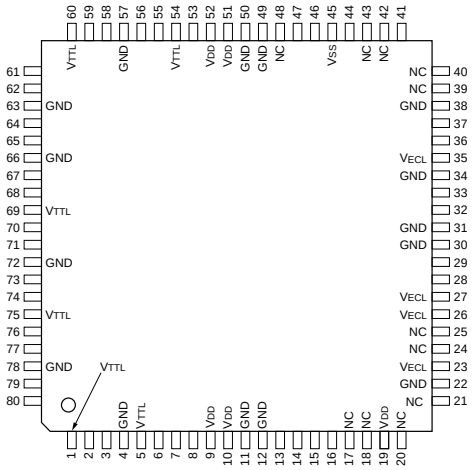
**OUTPUTS**

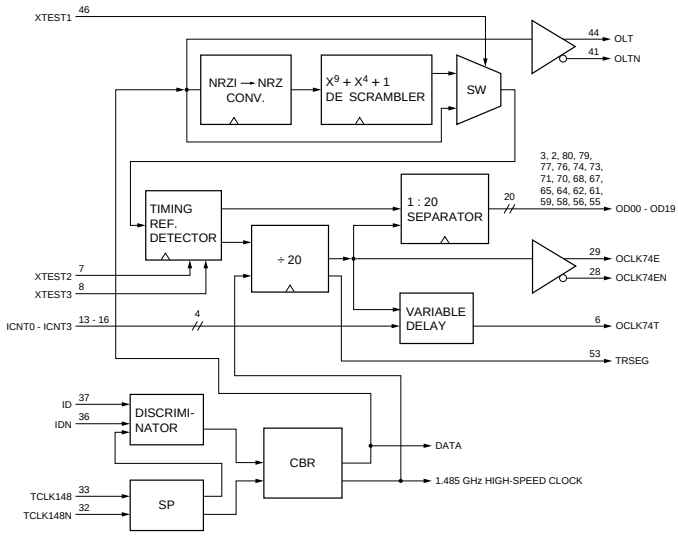
OBM : LD DRIVER BIAS CURRENT MONITOR
OCLK74E : 74.25 MHz PARALLEL CLOCK (ECL LEVEL)
OCLK74EN : INVERTED 74.25 MHz PARALLEL CLOCK (ECL LEVEL)
OCLK74T : 74.25 MHz PARALLEL CLOCK (LVTTL LEVEL)
OD : 1.485 Gbps SERIAL DATA
ODN : INVERTED 1.485 Gbps SERIAL DATA
OP : LD DRIVER PEAK CURRENT
OPFDD : LOWER SIDE OF THE PHASE COMPARATOR (PFD)
OPFDU : UPPER SIDE OF THE PHASE COMPARATOR (PFD)

CXG8004Q (SONY)

1.5 Gbps RECEIVER

—TOP VIEW—




| PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | — | VTTL | 21 | — | NC | 41 | O | OLTN | 61 | O | OD15 |
| 2 | O | OD01 | 22 | — | GND | 42 | — | NC | 62 | O | OD14 |
| 3 | O | OD00 | 23 | — | VECL | 43 | — | NC | 63 | — | GND |
| 4 | — | GND | 24 | — | NC | 44 | O | OLT | 64 | O | OD13 |
| 5 | — | VTTL | 25 | — | NC | 45 | — | VSS | 65 | O | OD12 |
| 6 | O | OCLK74T | 26 | — | VECL | 46 | I | XTEST1 | 66 | — | GND |
| 7 | I | XTEST2 | 27 | — | VECL | 47 | I | XRST | 67 | O | OD11 |
| 8 | I | XTEST3 | 28 | O | OCLK74EN | 48 | — | NC | 68 | O | OD10 |
| 9 | — | VDD | 29 | O | OCLK74E | 49 | — | GND | 69 | — | VTTL |
| 10 | — | VDD | 30 | — | GND | 50 | — | GND | 70 | O | OD09 |
| 11 | — | GND | 31 | — | GND | 51 | — | VDD | 71 | O | OD08 |
| 12 | — | GND | 32 | I | TCLK148N | 52 | — | VDD | 72 | — | GND |
| 13 | I | ICNT0 | 33 | I | TCLK148 | 53 | O | TRSFG | 73 | O | OD07 |
| 14 | I | ICNT1 | 34 | — | GND | 54 | — | VTTL | 74 | O | OD06 |
| 15 | I | ICNT2 | 35 | — | VECL | 55 | O | OD19 | 75 | — | VTTL |
| 16 | I | ICNT3 | 36 | I | IDN | 56 | O | OD18 | 76 | O | OD05 |
| 17 | — | NC | 37 | I | ID | 57 | — | GND | 77 | O | OD04 |
| 18 | — | NC | 38 | — | GND | 58 | O | OD17 | 78 | — | GND |
| 19 | — | VDD | 39 | — | NC | 59 | O | OD16 | 79 | O | OD03 |
| 20 | — | NC | 40 | — | NC | 60 | — | VTTL | 80 | O | OD02 |

**INPUTS**

ICNT0 - ICNT3 : PARALLEL CLOCK DELAY CONTROL
ID : 1.485 Gbps SERIAL DATA
IDN : INVERTED 1.485 Gbps SERIAL DATA
TCLK148 : EXTERNAL CLOCK (1.485 GHz)
TCLK148N : INVERTED EXTERNAL CLOCK (1.485 GHz)
XRST : RESET
XTEST1 : NRZI → NRZ CONVERSION AND DESCRAMBLER CONTROL
XTEST2 : TRS DETECTOR CONTROL
XTEST3 : CH/YH FLAG DETECTOR CONTROL

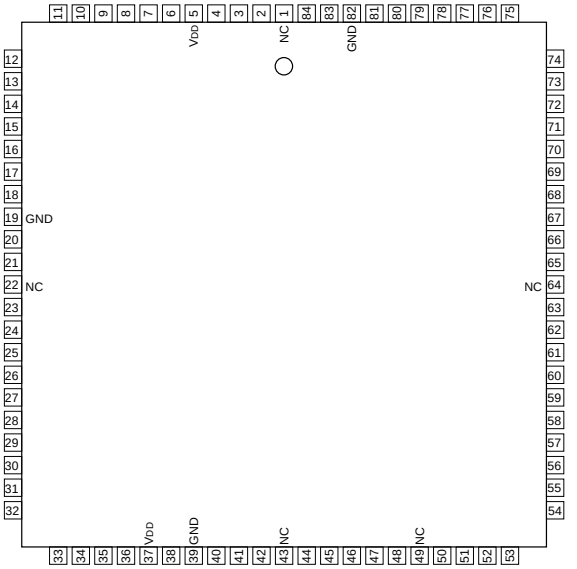
**OUTPUTS**

OD00 - OD19 : 20 BITS PARALLEL SIGNAL
OCLK74E : 74.25 MHz PARALLEL CLOCK (ECL LEVEL)
OCLK74EN : INVERTED 74.25 MHz PARALLEL CLOCK (ECL LEVEL)
OCLK74T : 4.25 MHz PARALLEL CLOCK (LVTTL LEVEL)
OLT : RETIMING DATA OF DISCRIMINATOR
OLTN : INVERTED DATA OF DISCRIMINATOR
TRSFG : TRS DETECTOR

HD647180XRCP8L

C-MOS 8-BIT MICRO PROCESSING UNIT

—TOP VIEW—




**INPUT**

| | |
|---|---|
| AN0 - AN5 | : ANALOG INPUT |
| $\overline{\text{BUSREQ}}$ | : BUS REQUEST |
| $\overline{\text{CTS0}}$, $\overline{1}$ | : CLEAR TO SEND FOR ASYNCHRONOUS SCI CHANNEL n (n = 0 OR 1) |
| $\overline{\text{DCD0}}$ | : DATA CARRIER DETECT FOR ASYNCHRONOUS SCI CHANNEL n (n = 0) |
| $\overline{\text{DREQ0}}$, $\overline{1}$ | : DMA REQUEST FOR CHANNEL n (n = 0 OR 1) |
| EXTAL | : EXTERNAL CLOCK |
| IC | : INPUT CAPTURE |
| INT0 - 2 | : INTERRUPT |
| MP0, 1 | : MOD PROGRAM |
| $\overline{\text{NMI}}$ | : NON-MASKABLE INTERRUPT |
| PG0 - PG5 | : 6-BIT INPUT OF PORT G |
| RXA0, 1 | : RECEIVE DATA FOR ASYNCHRONOUS SCI CHANNEL n (n = 0 OR 1) |
| RXS | : RECEIVE DATA FOR SERIAL I/O PORT |
| XTAL | : CLOCK |

**OUTPUT**

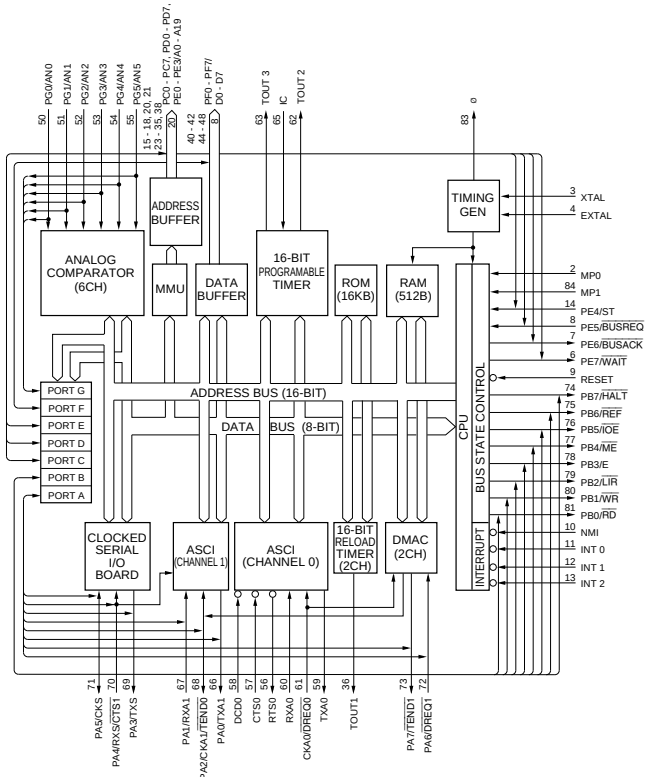
| | |
|---|---|
| A0 - A19 | : ADDRESS BUS |
| $\overline{\text{BUSACK}}$ | : BUS ACKNOWLEDGE |
| E | : ENABLE |
| $\overline{\text{IOE}}$ | : I/O ENABLE |
| $\overline{\text{LIR}}$ | : LOAD INSTRUCTION REGISTER |
| $\overline{\text{ME}}$ | : MEMORY ENABLE |
| $\overline{\text{RD}}$ | : READ |
| $\overline{\text{REF}}$ | : REFRESH |
| $\overline{\text{RTS0}}$ | : REQUEST TO SEND FOR ASYNCHRONOUS SCI CHANNEL n (n = 0) |
| ST | : STATUS |
| $\overline{\text{TEND0}}$, $\overline{1}$ | : TRANSFER END FOR CHANNEL n (n = 0 OR 1) |
| TOUT1 - 3 | : TIMER OUT |
| TXA0, 1 | : TRANSFER DATA FOR ASYNCHRONOUS SCI CHANNEL n (n = 0 OR 1) |
| TXS | : TRANSFER DATA FOR SERIAL I/O PORT |
| $\overline{\text{WR}}$ | : WRITE |
| ø | : SYSTEM CLOCK |

**INPUT/OUTPUT**

| | |
|---|---|
| CKA0, 1 | : CLOCK FOR ASYNCHRONOUS SCI CHANNEL n (n = 0 OR 1) |
| CKS | : CLOCK FOR SERIAL I/O PORT |
| D0 - D7 | : DATA BUS |
| PA0 - PA7 | : 8-BIT INPUT/OUTPUT OF PORT A |
| PB0 - PB7 | : 8-BIT INPUT/OUTPUT OF PORT B |
| PC0 - PC7 | : 8-BIT INPUT/OUTPUT OF PORT C |
| PD0 - PD7 | : 8-BIT INPUT/OUTPUT OF PORT D |
| PE0 - PE7 | : 8-BIT INPUT/OUTPUT OF PORT E |
| PF0 - PF7 | : 8-BIT INPUT/OUTPUT OF PORT F |

| PIN | MODE 0 | | MODE 1 | | MODE 2 | | PROM MODE | |
|---|---|---|---|---|---|---|---|---|
| No. | I/O | SIGNAL | I/O | SIGNAL | I/O | SIGNAL | I/O | SIGNAL |
| 1 | — | NC | — | NC | — | NC | — | NC |
| 2 | I | MP0 | I | MP0 | I | MP0 | I | MP0 |
| 3 | I | XTAL | I | XTAL | I | XTAL | I | XTAL |
| 4 | I | EXTAL | I | EXTAL | I | EXTAL | I | EXTAL |
| 5 | — | VDD | — | VDD | — | VDD | — | VDD |
| 6 | I/O | PE7 | I | $\overline{\text{WAIT}}$ | I | $\overline{\text{WAIT}}$ | — | NC |
| 7 | I/O | PE6 | O | $\overline{\text{BUSACK}}$ | O | $\overline{\text{BUSACK}}$ | — | NC |
| 8 | I/O | PE5 | I | $\overline{\text{BUSREQ}}$ | I | $\overline{\text{BUSREQ}}$ | — | NC |
| 9 | I | $\overline{\text{RESET}}$ | I | $\overline{\text{RESET}}$ | I | $\overline{\text{RESET}}$ | — | VPP |
| 10 | I | $\overline{\text{NMI}}$ | I | $\overline{\text{NMI}}$ | I | $\overline{\text{NMI}}$ | O | A9 |
| 11 | I | $\overline{\text{INT0}}$ | I | $\overline{\text{INT0}}$ | I | $\overline{\text{INT0}}$ | — | NC |
| 12 | I | $\overline{\text{INT0}}$ | I | $\overline{\text{INT0}}$ | I | $\overline{\text{INT0}}$ | — | NC |
| 13 | I | $\overline{\text{INT2}}$ | I | $\overline{\text{INT2}}$ | I | $\overline{\text{INT2}}$ | — | NC |
| 14 | I/O | PE4 | O | ST | O | ST | — | NC |
| 15 | I/O | PC0 | O | A0 | O | A0 | O | A0 |
| 16 | I/O | PC1 | O | A1 | O | A1 | O | A1 |
| 17 | I/O | PC2 | O | A2 | O | A2 | O | A2 |
| 18 | I/O | PC3 | O | A3 | O | A3 | O | A3 |
| 19 | — | GND | — | GND | — | GND | — | GND |
| 20 | I/O | PC4 | O | A4 | O | A4 | O | A4 |
| 21 | I/O | PC5 | O | A5 | O | A5 | O | A5 |
| 22 | — | NC | — | NC | — | NC | — | NC |
| 23 | I/O | PC6 | O | A6 | O | A6 | O | A6 |
| 24 | I/O | PC7 | O | A7 | O | A7 | O | A7 |
| 25 | I/O | PD0 | O | A8 | I/O | A8/PD0 | O | A8 |
| 26 | I/O | PD1 | O | A9 | I/O | A9/PD1 | — | NC |
| 27 | I/O | PD2 | O | A10 | I/O | A10/PD2 | O | A10 |
| 28 | I/O | PD3 | O | A11 | I/O | A11/PD3 | O | A11 |
| 29 | I/O | PD4 | O | A12 | /IO | A12/PD4 | O | A12 |
| 30 | I/O | PD5 | O | A13 | I/O | A13/PD5 | O | A13 |
| 31 | I/O | PD6 | O | A14 | I/O | A14/PD6 | O | A14 |
| 32 | I/O | PD7 | O | A15 | I/O | A15/PD7 | I | OE |
| 33 | I/O | PE0 | O | A16 | I/O | A16/PE0 | I | CE |
| 34 | I/O | PE1 | O | A17 | I/O | A17/PE1 | — | NC |
| 35 | I/O | PE2 | O | A18 | I/O | A18/PE2 | — | NC |
| 36 | O | TOUT1 | O | TOUT1 | O | TOUT1 | — | NC |
| 37 | — | VDD | — | VDD | — | VDD | — | VDD |
| 38 | I/O | PE3 | O | A19 | I/O | A19/PE3 | — | NC |
| 39 | — | GND | — | GND | — | GND | — | GND |
| 40 | I/O | PF0 | I/O | D0 | I/O | D0 | O | O0 |
| 41 | I/O | PF1 | I/O | D1 | I/O | D1 | O | O1 |
| 42 | I/O | PF2 | I/O | D2 | I/O | D2 | O | O2 |

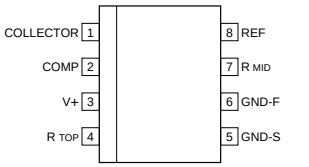
| PIN | MODE 0 | | MODE 1 | | MODE 2 | | PROM MODE | |
|---|---|---|---|---|---|---|---|---|
| No. | I/O | SIGNAL | I/O | SIGNAL | I/O | SIGNAL | I/O | SIGNAL |
| 43 | — | NC | — | NC | — | NC | — | NC |
| 44 | I/O | PF3 | I/O | D3 | I/O | D3 | O | O3 |
| 45 | I/O | PF4 | I/O | D4 | I/O | D4 | O | O4 |
| 46 | I/O | PF5 | I/O | D5 | I/O | D5 | O | O5 |
| 47 | I/O | PF6 | I/O | D6 | I/O | D6 | O | O6 |
| 48 | I/O | PF7 | I/O | D7 | I/O | D7 | O | O7 |
| 49 | — | GND | — | GND | — | GND | — | GND |
| 50 | I | PG0/AN0 | I | PG0/AN0 | I | PG0/AN0 | — | NC |
| 51 | I | PG1/AN1 | I | PG1/AN1 | I | PG1/AN1 | — | NC |
| 52 | I | PG2/AN2 | I | PG2/AN2 | I | PG2/AN2 | — | NC |
| 53 | I | PG3/AN3 | I | PG3/AN3 | I | PG3/AN3 | — | NC |
| 54 | I | PG4/AN4 | I | PG4/AN4 | I | PG4/AN4 | — | NC |
| 55 | I | PG5/AN5 | I | PG5/AN5 | I | PG5/AN5 | — | NC |
| 56 | O | $\overline{\text{RTS0}}$ | O | $\overline{\text{RTS0}}$ | O | $\overline{\text{RTS0}}$ | — | NC |
| 57 | I | $\overline{\text{CTS0}}$ | I | $\overline{\text{CTS0}}$ | I | $\overline{\text{CTS0}}$ | — | NC |
| 58 | I | $\overline{\text{DCD0}}$ | I | $\overline{\text{DCD0}}$ | I | $\overline{\text{DCD0}}$ | — | NC |
| 59 | O | TXA0 | O | TXA0 | O | TXA0 | — | NC |
| 60 | I | RXA0 | I | RXA0 | I | RXA0 | — | NC |
| 61 | I/O | CKA0/$\overline{\text{DREQ0}}$ | I/O | CKA0/$\overline{\text{DREQ0}}$ | I/O | CKA0/$\overline{\text{DREQ0}}$ | — | NC |
| 62 | O | TOUT2 | O | TOUT2 | O | TOUT2 | — | NC |
| 63 | O | TOUT3 | O | TOUT3 | O | TOUT3 | — | NC |
| 64 | — | NC | — | NC | — | NC | — | NC |
| 65 | I | IC | I | IC | I | IC | — | NC |
| 66 | I/O | TXA1/PA0 | I/O | TXA1/PA0 | I/O | TXA1/PA0 | — | NC |
| 67 | I/O | RXA1/PA1 | I/O | RXA1/PA1 | I/O | RXA1/PA1 | — | NC |
| 68 | I/O | CKA1/$\overline{\text{TEND0}}$/PA2 | I/O | CKA1/$\overline{\text{TEND0}}$/PA2 | I/O | CKA1/$\overline{\text{TEND0}}$/PA2 | — | NC |
| 69 | I/O | TXS/PA3 | I/O | TXS/PA3 | I/O | TXS/PA3 | — | NC |
| 70 | I/O | RXS/$\overline{\text{CTS1}}$/PA4 | I/O | RXS/$\overline{\text{CTS1}}$/PA4 | I/O | RXS/$\overline{\text{CTS1}}$/PA4 | — | NC |
| 71 | I/O | CKS/PA5 | I/O | CKS/PA5 | I/O | CKS/PA5 | — | NC |
| 72 | I/O | $\overline{\text{DREQ1}}$/PA6 | I/O | $\overline{\text{DREQ1}}$/PA6 | I/O | $\overline{\text{DREQ1}}$/PA6 | — | NC |
| 73 | I/O | $\overline{\text{TEND1}}$/PA7 | I/O | $\overline{\text{TEND1}}$/PA7 | I/O | $\overline{\text{TEND1}}$/PA7 | — | NC |
| 74 | I/O | PB7 | O | $\overline{\text{HALT}}$ | O | $\overline{\text{HALT}}$ | — | NC |
| 75 | I/O | PB6 | O | $\overline{\text{REF}}$ | O | $\overline{\text{REF}}$ | — | NC |
| 76 | I/O | PB5 | O | $\overline{\text{IOE}}$ | O | $\overline{\text{IOE}}$ | — | NC |
| 77 | I/O | PB4 | O | $\overline{\text{ME}}$ | O | $\overline{\text{ME}}$ | — | NC |
| 78 | I/O | PB3 | O | E | O | E | — | NC |
| 79 | I/O | PB2 | O | $\overline{\text{LIR}}$ | O | $\overline{\text{LIR}}$ | — | NC |
| 80 | I/O | PB1 | O | $\overline{\text{WR}}$ | O | $\overline{\text{WR}}$ | — | NC |
| 81 | I/O | PB0 | O | $\overline{\text{RD}}$ | O | $\overline{\text{RD}}$ | — | NC |
| 82 | — | GND | — | GND | — | GND | — | GND |
| 83 | O | ø | O | ø | O | ø | — | NC |
| 84 | I | MP1 | I | MP1 | I | MP1 | I | MP1 |

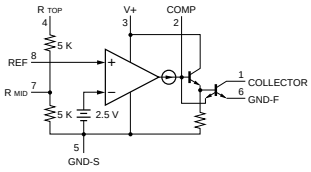



## LT1431CS8-E1 (LINEAR TECH)

PROGRAMMABLE REFERENCE

—TOP VIEW—

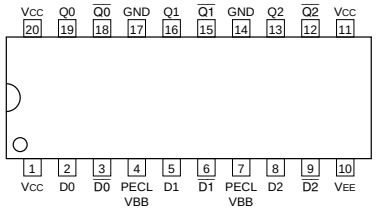


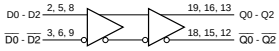




## MC100LVEL91DWR2 (MOTOROLA)

TRIPLE PECL TO ECL TRANSLATOR

—TOP VIEW—

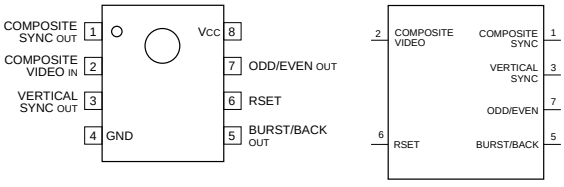


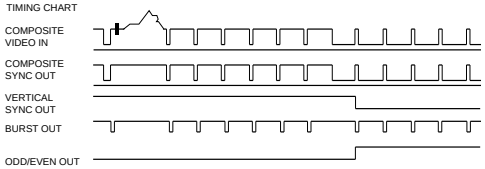




## LM1881M (NS)
## LM1881MX

VIDEO SYNC SEPARATOR

—TOP VIEW—

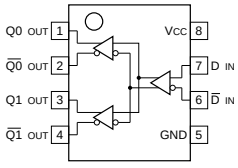



## MC10EL11DR2 (MOTOROLA)

ECL 1:2 DIFFERENTIAL FANOUT BUFFER

—TOP VIEW—

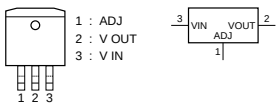



D ; DATA INPUT
Q0, Q1 ; DATA OUTPUT

## LT1085CM-TR (LINEAR TECH)

POSITIVE ADJUSTABLE REGULATOR

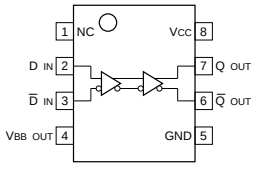
—FRONT VIEW—




## MC10EL16DR2 (MOTOROLA)

ECL DIFFERENTIAL RECEIVER

—TOP VIEW—

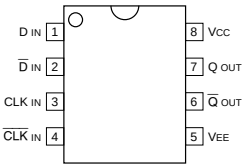


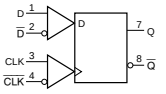

D ; DATA INPUT
Q ; DATA OUTPUT
VBB ; REFERENCE VOLTAGE OUTPUT

## MC10EL52DR2 (MOTOROLA)

D FLIP-FLOP WITH DIFFERENTIAL DATA AND CLOCK

—TOP VIEW—



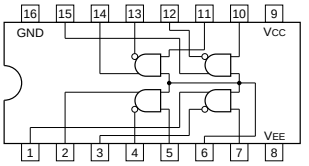

| INPUTS | | OUTPUTS |
|---|---|---|
| D | CK | Q |
| 0 | ↑ | 0 |
| 1 | ↑ | 1 |

0 : LOW LEVEL
1 : HIGH LEVEL

## MC10H124M (MOTOROLA)
## MC10H124MEL

ECL TTL-TO-ECL TRANSLATOR

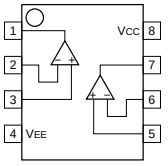
—TOP VIEW—




## MC34182DR2
## MC34182M (MOTOROLA)

DUAL OPERATIONAL AMPLIFIERS
(DUAL-SUPPLY TYPE)

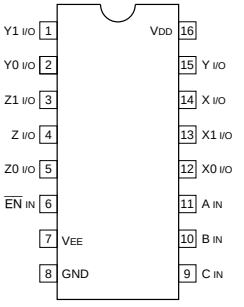
—TOP VIEW—

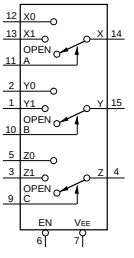



## MC74HC4053FEL (MOTOROLA)
## TC74HC4053AFT(EL) (TOSHIBA)

C-MOS TRIPLE 2-CHANNEL ANALOG MULTIPLEXER/DEMULTIPLEXER

—TOP VIEW—



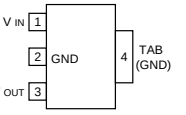

| CONTROL INPUTS | | | | ON CHANNEL | | |
|---|---|---|---|---|---|---|
| EN | SELECT | | | | | |
| | C | B | A | | | |
| 0 | 0 | 0 | 0 | Z0 | Y0 | X0 |
| 0 | 0 | 0 | 1 | Z0 | Y0 | X1 |
| 0 | 0 | 1 | 0 | Z0 | Y1 | X0 |
| 0 | 0 | 1 | 1 | Z0 | Y1 | X1 |
| 0 | 1 | 0 | 0 | Z1 | Y0 | X0 |
| 0 | 1 | 0 | 1 | Z1 | Y0 | X1 |
| 0 | 1 | 1 | 0 | Z1 | Y1 | X0 |
| 0 | 1 | 1 | 1 | Z1 | Y1 | X1 |
| 1 | × | × | × | OPEN | | |

0 : LOW LEVEL
1 : HIGH LEVEL
× : DON'T CARE

## MIC5201-3.3BS (MICREL)

LOW DROP-OUT VOLTAGE REGULATOR

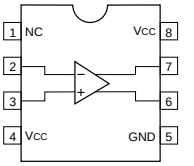
—TOP VIEW—




## NJM360M (JRC)
## NJM360M-TE2

HIGH SPEED VOLTAGE COMPARATOR

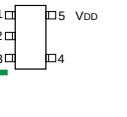
—TOP VIEW—

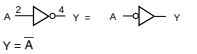



## SC7S04F (MOTOROLA)
## TC7S04F(TE85R)

C-MOS INVERTER

—TOP VIEW—




Y = Ā

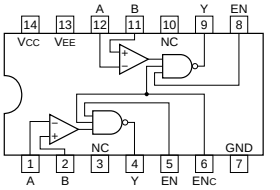
| A | Y |
|---|---|
| 0 | 1 |
| 1 | 0 |

0 : LOW LEVEL
1 : HIGH LEVEL

## SN75207BNS (TI)
## SN75207BNS-E05

BIPOLAR LINE RECEIVER

—TOP VIEW—



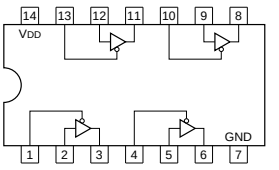

| INPUTS | | | OUT |
|---|---|---|---|
| B – A | EN | ENC | Y |
| B – A ≧ 10 mV | × | 0 | 1 |
| | 0 | × | 1 |
| | 1 | 1 | 0 |
| \|B – A\| < 10 mV | × | 0 | 1 |
| | 0 | × | 1 |
| | 1 | 1 | ✻ |
| B – A ≦ –10 mV | × | × | 1 |

0 : LOW LEVEL
1 : HIGH LEVEL
× : DON'T CARE
✻ : INDETERMINATE

## TC74VHC125FT(EL) (TOSHIBA)

C-MOS BUS BUFFER GATES WITH 3-STATE OUTPUT

—TOP VIEW—



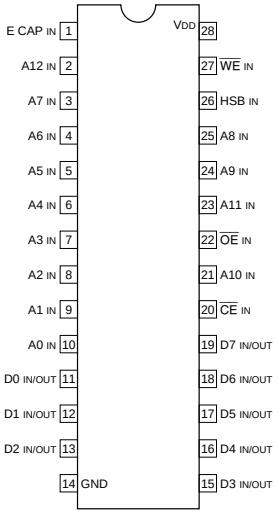
| G | A | Y |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | × | HI-Z |

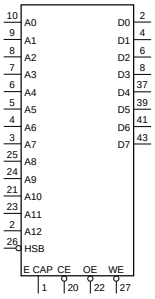
0 : LOW LEVEL
1 : HIGH LEVEL
× : DON'T CARE
HI-Z : HIGH IMPEDANCE

## STK12C68-S45 (SIMTEK)

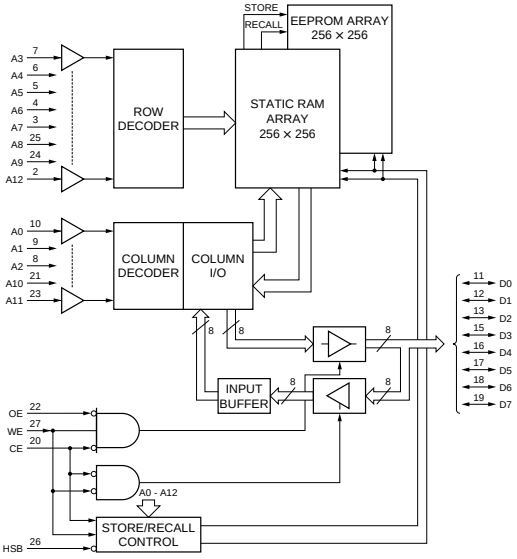
C-MOS 64 K (8,192 × 8)-BIT NONVOLATILE SRAM

—TOP VIEW—



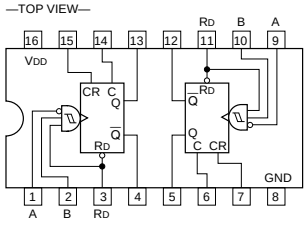

A0 - A12 : ADDRESS INPUTS
$\overline{CE}$ : CHIP ENABLE INPUT
D0 - D7 : DATA INPUTS/OUTPUTS
E CAP : EXTERNAL CAPACITOR
$\overline{HSB}$ : HARDWARE STORE/BUSY
$\overline{OE}$ : OUTPUT ENABLE INPUT
$\overline{WE}$ : WRITE ENABLE INPUT




## TC74VHC221AFT(EL) (TOSHIBA)

C-MOS MONOSTABLE MULTIVIBRATOR WITH SCHMITT TRIGGER INPUT

—TOP VIEW—




| INPUTS | | | OUTPUTS | |
|---|---|---|---|---|
| $R_D$ | A | B | Q | $\overline{Q}$ |
| 0 | × | × | 0 | 1 |
| × | 1 | × | 0 | 1 |
| × | × | 0 | 0 | 1 |
| 1 | 0 | ↑ | ⊓ | ⊔ |
| 1 | ↓ | 1 | ⊓ | ⊔ |
| ↑ | 0 | 1 | ⊓ | ⊔ |

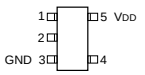
0 : LOW LEVEL
1 : HIGH LEVEL
× : DON'T CARE

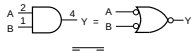
OUTPUT PULSE WIDTH = 0.7CR

## TC7S08F (TOSHIBA)
## TC7S08F(TE85R)

C-MOS 2-INPUT AND GATE

—TOP VIEW—




$Y = A \bullet B = \overline{\overline{A} + \overline{B}}$

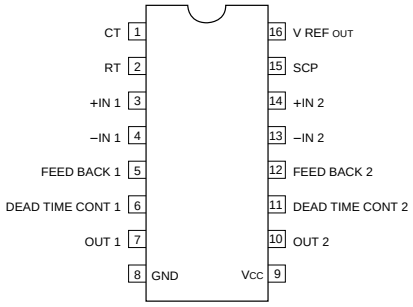
| A | B | Y |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

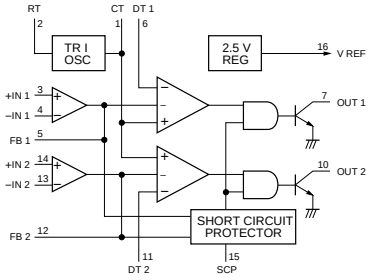
0 : LOW LEVEL
1 : HIGH LEVEL

## TL1451ACNS (TI)
## TL1451ACNS-E05

DUAL PWM POWER CONTROLLER

—TOP VIEW—

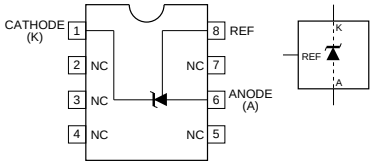



## TL431CPS (TI)
## TL431CPS-E05

ADJUSTABLE PRECISION SHUNT REGULATOR

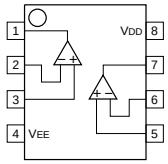
—TOP VIEW—




## TLC272CPW-E05 (TI)

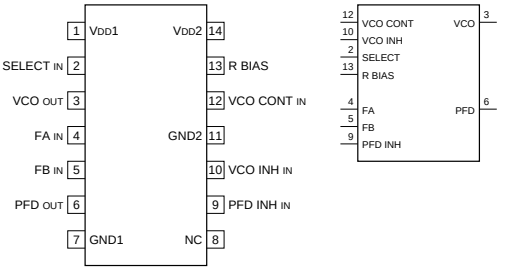
C-MOS DUAL OPERATIONAL AMPLIFIERS
(SINGLE-SUPPLY TYPE)

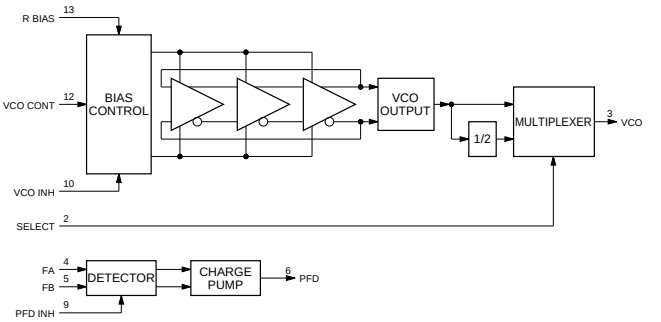
—TOP VIEW—



TLC2932IPW (TI)
TLC2932IPW-E05

C-MOS VCO AND PHASE FREQUENCY DETECTOR
—TOP VIEW—



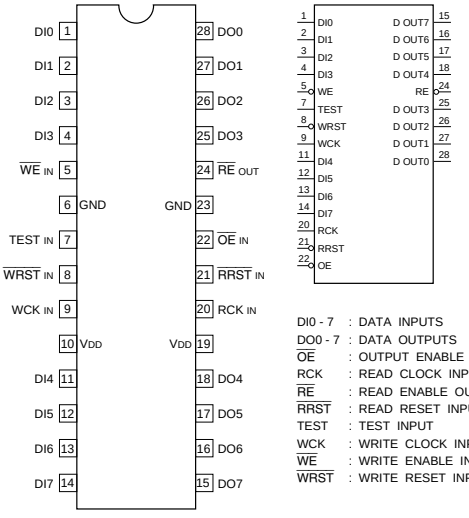

**INPUT**
FA : REFERENCE FREQUENCY
FB : INPUT FREQUENCY FROM OUTSIDE COUNTER
PFD INH : PFD INHIBIT
SELECT : VCO OUTPUT FREQUENCY SELECT
VCO CONT : VCO CONTROL VOLTAGE
VCO INH : VCO INHIBIT

**OUTPUT**
PFD : PHASE FREQUENCY DETECTOR
VCO : VOLTAGE CONTROLLED OSCILLATOR

**OTHER**
R BIAS : BIAS RESISTOR FOR VCO OSCILLATION FREQUENCY SETTING

UPD42280GU-30 (NEC)

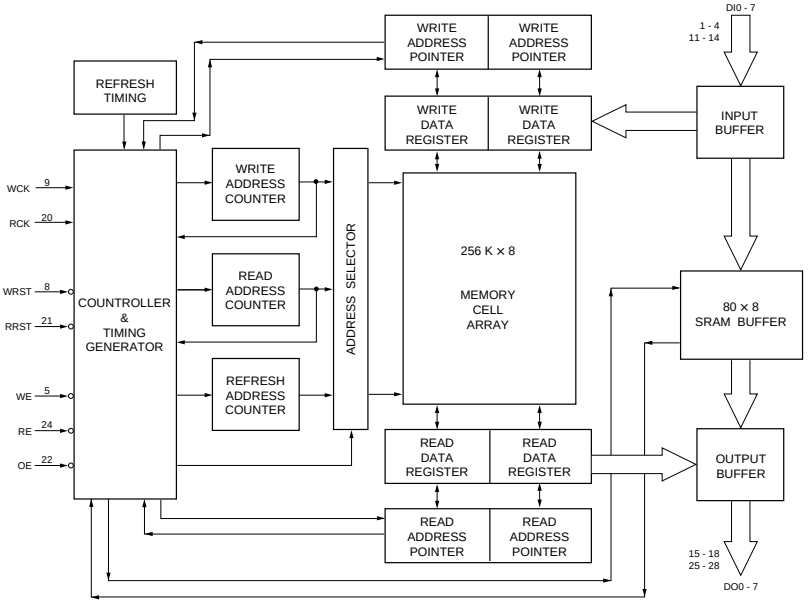
C-MOS 2 M (256 × 8)-BIT FIELD BUFFER
—TOP VIEW—





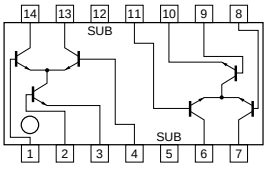


DI0 - 7 : DATA INPUTS
DO0 - 7 : DATA OUTPUTS
$\overline{OE}$ : OUTPUT ENABLE INPUT
RCK : READ CLOCK INPUT
$\overline{RE}$ : READ ENABLE OUTPUT
$\overline{RRST}$ : READ RESET INPUT
TEST : TEST INPUT
WCK : WRITE CLOCK INPUT
$\overline{WE}$ : WRITE ENABLE INPUT
$\overline{WRST}$ : WRITE RESET INPUT




UPA102G-E1 (NEC)

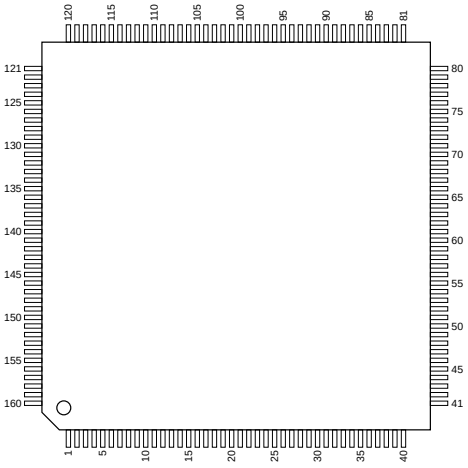
HIGH FREQUENCY PNP TRANSISTOR ARRAY
—TOP VIEW—

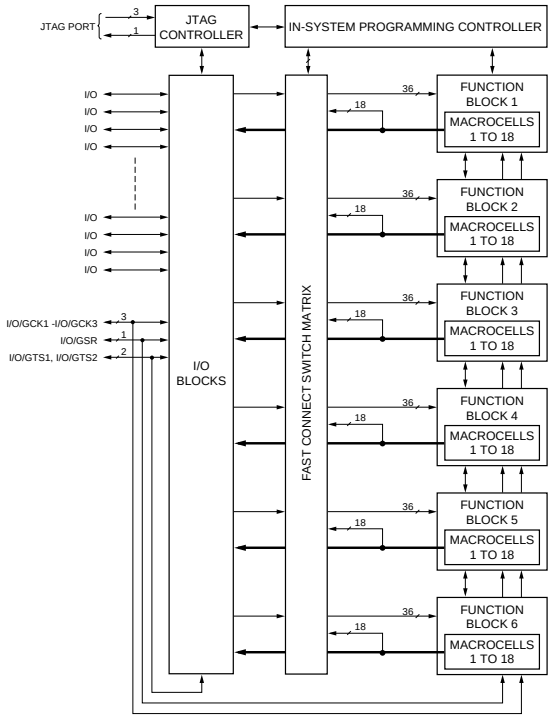


XC95108-15PQ160C (XILINX)

PROGRAMING CPLD

—TOP VIEW—



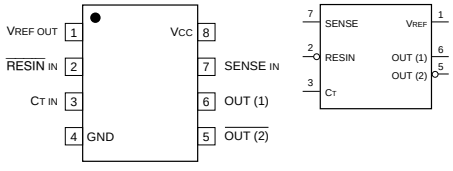

| PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | — | VCC | 41 | — | VCC | 81 | — | VCC | 121 | — | VCC |
| 2 | I/O | I/O | 42 | I/O | I/O/GCK3 | 82 | I/O | I/O | 122 | I/O | I/O |
| 3 | I/O | I/O | 43 | I/O | I/O | 83 | I/O | I/O | 123 | I/O | I/O |
| 4 | I/O | I/O | 44 | I/O | I/O | 84 | I/O | I/O | 124 | I/O | I/O |
| 5 | I/O | I/O | 45 | I/O | I/O | 85 | I/O | I/O | 125 | I/O | I/O |
| 6 | I/O | I/O/GTS1 | 46 | — | VCC | 86 | I/O | I/O | 126 | I/O | I/O |
| 7 | I/O | I/O | 47 | I/O | I/O | 87 | I/O | I/O | 127 | — | GND |
| 8 | I/O | I/O/GTS2 | 48 | I/O | I/O | 88 | I/O | I/O | 128 | I/O | I/O |
| 9 | I/O | I/O | 49 | I/O | I/O | 89 | I/O | I/O | 129 | I/O | I/O |
| 10 | — | VCC | 50 | I/O | I/O | 90 | I/O | I/O | 130 | I/O | I/O |
| 11 | I/O | I/O | 51 | — | GND | 91 | I/O | I/O | 131 | I/O | I/O |
| 12 | I/O | I/O | 52 | I/O | I/O | 92 | I/O | I/O | 132 | I/O | I/O |
| 13 | I/O | I/O | 53 | I/O | I/O | 93 | I/O | I/O | 133 | I/O | I/O |
| 14 | I/O | I/O | 54 | I/O | I/O | 94 | — | VCC | 134 | I/O | I/O |
| 15 | I/O | I/O | 55 | I/O | I/O | 95 | I/O | I/O | 135 | I/O | I/O |
| 16 | I/O | I/O | 56 | I/O | I/O | 96 | I/O | I/O | 136 | O | TDO |
| 17 | I/O | I/O | 57 | I/O | I/O | 97 | I/O | I/O | 137 | — | GND |
| 18 | I/O | I/O | 58 | I/O | I/O | 98 | I/O | I/O | 138 | I/O | I/O |
| 19 | I/O | I/O | 59 | I/O | I/O | 99 | — | GND | 139 | I/O | I/O |
| 20 | — | GND | 60 | I/O | I/O | 100 | — | GND | 140 | I/O | I/O |
| 21 | I/O | I/O | 61 | — | VCC | 101 | I/O | I/O | 141 | — | VCC |
| 22 | I/O | I/O | 62 | I/O | I/O | 102 | I/O | I/O | 142 | I/O | I/O |
| 23 | I/O | I/O | 63 | I/O | I/O | 103 | I/O | I/O | 143 | I/O | I/O |
| 24 | I/O | I/O | 64 | I/O | I/O | 104 | I/O | I/O | 144 | I/O | I/O |
| 25 | I/O | I/O | 65 | I/O | I/O | 105 | I/O | I/O | 145 | I/O | I/O |
| 26 | I/O | I/O | 66 | I/O | I/O | 106 | I/O | I/O | 146 | I/O | I/O |
| 27 | I/O | I/O | 67 | I/O | I/O | 107 | I/O | I/O | 147 | I/O | I/O |
| 28 | I/O | I/O | 68 | I/O | I/O | 108 | I/O | I/O | 148 | I/O | I/O |
| 29 | I/O | I/O | 69 | I/O | I/O | 109 | I/O | I/O | 149 | I/O | I/O |
| 30 | I/O | I/O | 70 | — | GND | 110 | — | GND | 150 | I/O | I/O |
| 31 | — | GND | 71 | I | TDI | 111 | I/O | I/O | 151 | I/O | I/O |
| 32 | I/O | I/O | 72 | I/O | I/O | 112 | I/O | I/O | 152 | I/O | I/O |
| 33 | I/O | I/O/GCK1 | 73 | I | TMS | 113 | I/O | I/O | 153 | I/O | I/O |
| 34 | I/O | I/O | 74 | I/O | I/O | 114 | I/O | I/O | 154 | I/O | I/O |
| 35 | I/O | I/O/GCK2 | 75 | I | TCK | 115 | I/O | I/O | 155 | I/O | I/O |
| 36 | I/O | I/O | 76 | I/O | I/O | 116 | I/O | I/O | 156 | I/O | I/O |
| 37 | I/O | I/O | 77 | I/O | I/O | 117 | I/O | I/O | 157 | — | VCC |
| 38 | I/O | I/O | 78 | I/O | I/O | 118 | I/O | I/O | 158 | I/O | I/O |
| 39 | I/O | I/O | 79 | I/O | I/O | 119 | I/O | I/O | 159 | I/O | I/O/GSR |
| 40 | — | GND | 80 | — | GND | 120 | — | GND | 160 | — | GND |

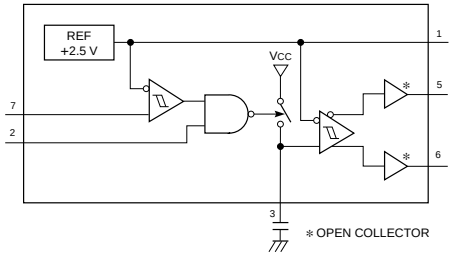
TL7705ACPS (TI)

TL7705ACPS-E05

POWER VOLTAGE SUPERVISOR

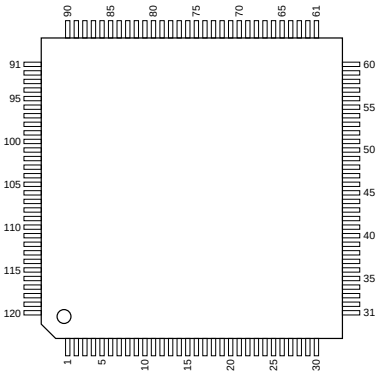
—TOP VIEW—



## CXD9074R (SONY)

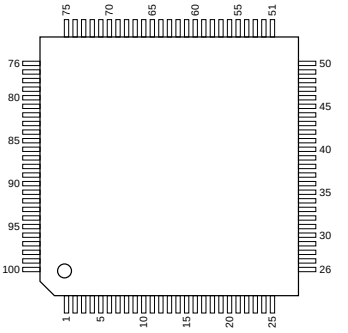
HDCAM-SDTI CONVERTER
—TOP VIEW—




| PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | — | GND | 31 | — | GND | 61 | — | GND | 91 | — | GND |
| 2 | I | IP AU RESET | 32 | I | IP SYRW | 62 | I | MST | 92 | O | OP 27ML |
| 3 | I | IP FS | 33 | O | OP SYRW | 63 | I | XTST | 93 | O | OP 27MX |
| 4 | I | CLK FS64 | 34 | I | IP SYCS | 64 | I | IP VPD | 94 | — | Vcc |
| 5 | I | IP AU SQC | 35 | — | Vcc | 65 | I | XSM | 95 | O | OP XT |
| 6 | I/O | BP AU CH12 | 36 | I | CLK CKSY | 66 | — | Vcc | 96 | I | IP 27MA |
| 7 | I/O | BP AU CH34 | 37 | I | IP SDDI EN DE | 67 | I/O | BP EXT H | 97 | — | GND |
| 8 | I/O | BP V DATA Y9 | 38 | I | IP SYSTA1 | 68 | I/O | BP EXT F | 98 | — | Vcc |
| 9 | I/O | BP V DATA Y8 | 39 | I | IP SYSTA0 | 69 | O | OP EXT V | 99 | — | GND |
| 10 | — | Vcc | 40 | — | Vcc | 70 | — | Vcc | 100 | — | Vcc |
| 11 | — | GND | 41 | — | GND | 71 | — | GND | 101 | — | GND |
| 12 | I/O | BP V DATA Y7 | 42 | I/O | BP SDDI DATA9 | 72 | I/O | BP V DATA C9 | 102 | — | Vcc |
| 13 | I/O | BP V DATA Y6 | 43 | I/O | BP SDDI DATA8 | 73 | I/O | BP V DATA C8 | 103 | — | GND |
| 14 | I/O | BP V DATA Y5 | 44 | I/O | BP SDDI DATA7 | 74 | I/O | BP V DATA C7 | 104 | — | Vcc |
| 15 | I/O | BP V DATA Y4 | 45 | I/O | BP SDDI DATA6 | 75 | I/O | BP V DATA C6 | 105 | O | OP 74ML |
| 16 | — | Vcc | 46 | — | Vcc | 76 | — | Vcc | 106 | — | Vcc |
| 17 | I/O | BP V DATA Y3 | 47 | I/O | BP SDDI DATA5 | 77 | I/O | BP V DATA C5 | 107 | O | OP 74MX |
| 18 | I/O | BP V DATA Y2 | 48 | I/O | BP SDDI DATA4 | 78 | I/O | BP V DATA C4 | 108 | I | IP 74MS |
| 19 | I/O | BP V DATA Y1 | 49 | I/O | BP SDDI DATA3 | 79 | I/O | BP V DATA C3 | 109 | I | IP 74MA |
| 20 | I/O | BP V DATA Y0 | 50 | I/O | BP SDDI DATA2 | 80 | I/O | BP V DATA C2 | 110 | I | CLK27M |
| 21 | — | GND | 51 | — | GND | 81 | — | GND | 111 | — | GND |
| 22 | I/O | BP SYIO7 | 52 | I/O | BP SDDI DATA1 | 82 | I/O | BP V DATA C1 | 112 | I | CLK74M |
| 23 | I/O | BP SYIO6 | 53 | I/O | BP SDDI DATA0 | 83 | I/O | BP V DATA C0 | 113 | I | IP LPF1 |
| 24 | I/O | BP SYIO5 | 54 | I/O | BP SDDI EXT F | 84 | O | OP MON1 | 114 | O | OP LPF1 |
| 25 | I/O | BP SYIO4 | 55 | I/O | BP SDDI EXT H | 85 | I/O | BP AU CH78 | 115 | O | OP ML1 |
| 26 | — | Vcc | 56 | O | OP SDDI EXT V | 86 | I/O | BP AU CH56 | 116 | — | IP MS1 |
| 27 | I/O | BP SYIO3 | 57 | — | Vcc | 87 | I | IP EXT TG RST | 117 | O | OP 74MX1 |
| 28 | I/O | BP SYIO2 | 58 | O | OP MON0 | 88 | I | RST | 118 | — | GND |
| 29 | I/O | BP SYIO1 | 59 | I | SMCK | 89 | O | OP MON2 | 119 | O | OP 27MX2 |
| 30 | I/O | BP SYIO0 | 60 | — | Vcc | 90 | I | IP 27MS | 120 | — | Vcc |

## EPM7128STC100-15 (ALTERA)

FIELD PROGRAMMABLE LOGIC CIRCUIT
—TOP VIEW—



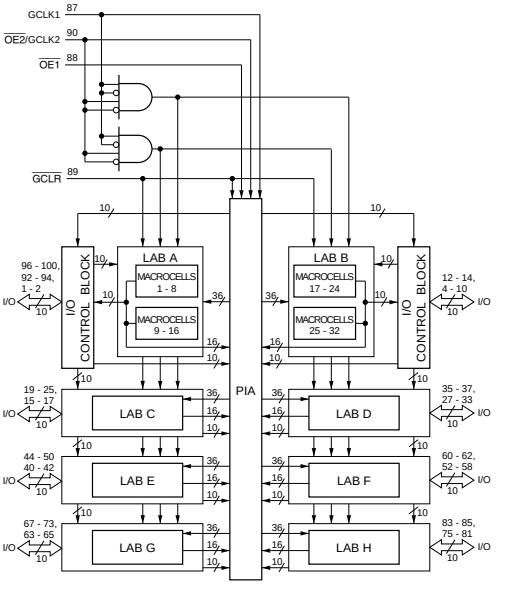

| PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | I/O | I/O | 26 | — | GND | 51 | — | Vcc2 | 76 | I/O | I/O |
| 2 | I/O | I/O | 27 | I/O | I/O | 52 | I/O | I/O | 77 | I/O | I/O |
| 3 | — | Vcc2 | 28 | I/O | I/O | 53 | I/O | I/O | 78 | I/O | I/O |
| 4 | I/O | I/O | 29 | I/O | I/O | 54 | I/O | I/O | 79 | I/O | I/O |
| 5 | I/O | I/O | 30 | I/O | I/O | 55 | I/O | I/O | 80 | I/O | I/O |
| 6 | I/O | I/O | 31 | I/O | I/O | 56 | I/O | I/O | 81 | I/O | I/O |
| 7 | I/O | I/O | 32 | I/O | I/O | 57 | I/O | I/O | 82 | — | Vcc2 |
| 8 | I/O | I/O | 33 | I/O | I/O | 58 | I/O | I/O | 83 | I/O | I/O |
| 9 | I/O | I/O | 34 | — | Vcc2 | 59 | — | GND | 84 | I/O | I/O |
| 10 | I/O | I/O | 35 | I/O | I/O | 60 | I/O | I/O | 85 | I/O | I/O |
| 11 | — | GND | 36 | I/O | I/O | 61 | I/O | I/O | 86 | — | GND |
| 12 | I/O | I/O | 37 | I/O | I/O | 62 | I/O | I/O | 87 | I | $\overline{GCLK1}$ |
| 13 | I/O | I/O | 38 | — | GND | 63 | I/O | I/O | 88 | I | $\overline{OE1}$ |
| 14 | I/O | I/O | 39 | — | Vcc1 | 64 | I/O | I/O | 89 | I | $\overline{GCLR}$ |
| 15 | I/O | I/O | 40 | I/O | I/O | 65 | I/O | I/O | 90 | I | $\overline{OE2}$/GCLK2 |
| 16 | I/O | I/O | 41 | I/O | I/O | 66 | — | Vcc2 | 91 | — | Vcc1 |
| 17 | I/O | I/O | 42 | I/O | I/O | 67 | I/O | I/O | 92 | I/O | I/O |
| 18 | — | Vcc2 | 43 | — | GND | 68 | I/O | I/O | 93 | I/O | I/O |
| 19 | I/O | I/O | 44 | I/O | I/O | 69 | I/O | I/O | 94 | I/O | I/O |
| 20 | I/O | I/O | 45 | I/O | I/O | 70 | I/O | I/O | 95 | — | GND |
| 21 | I/O | I/O | 46 | I/O | I/O | 71 | I/O | I/O | 96 | I/O | I/O |
| 22 | I/O | I/O | 47 | I/O | I/O | 72 | I/O | I/O | 97 | I/O | I/O |
| 23 | I/O | I/O | 48 | I/O | I/O | 73 | I/O | I/O | 98 | I/O | I/O |
| 24 | I/O | I/O | 49 | I/O | I/O | 74 | — | GND | 99 | I/O | I/O |
| 25 | I/O | I/O | 50 | I/O | I/O | 75 | I/O | I/O | 100 | I/O | I/O |

**INPUTS**

GCLK1, GCLK2 : GLOBAL CLOCK1, 2
$\overline{GCLR}$ : GLOBAL CLEAR
$\overline{OE1}$, $\overline{OE2}$ : OUTPUT ENABLE1, 2

**INPUT/OUTPUT**

I/O : DATA




✻ABOVE DIAGRAM SHOWS CONDITIONS BEFORE PROGRAMMING.

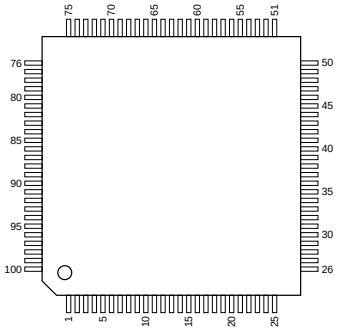
http://getMANUAL.com



EPM7160STC100-7 (ALTERA)

PROGRAMMABLE LOGIC CIRCUIT

—TOP VIEW—




| PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | I/O | I/O | 26 | — | GND | 51 | — | Vcc2 | 76 | I/O | I/O |
| 2 | I/O | I/O | 27 | I/O | I/O | 52 | I/O | I/O | 77 | I/O | I/O |
| 3 | — | Vcc2 | 28 | I/O | I/O | 53 | I/O | I/O | 78 | I/O | I/O |
| 4 | I/O | I/O | 29 | I/O | I/O | 54 | I/O | I/O | 79 | I/O | I/O |
| 5 | I/O | I/O | 30 | I/O | I/O | 55 | — | NC | 80 | I/O | I/O |
| 6 | I/O | I/O | 31 | I/O | I/O | 56 | I/O | I/O | 81 | I/O | I/O |
| 7 | — | NC | 32 | I/O | I/O | 57 | I/O | I/O | 82 | — | Vcc2 |
| 8 | I/O | I/O | 33 | I/O | I/O | 58 | I/O | I/O | 83 | — | NC |
| 9 | I/O | I/O | 34 | — | Vcc2 | 59 | — | GND | 84 | I/O | I/O |
| 10 | I/O | I/O | 35 | — | NC | 60 | I/O | I/O | 85 | I/O | I/O |
| 11 | — | GND | 36 | I/O | I/O | 61 | I/O | I/O | 86 | — | GND |
| 12 | I/O | I/O | 37 | I/O | I/O | 62 | I/O | I/O | 87 | I | $\overline{\text{GCLK1}}$ |
| 13 | I/O | I/O | 38 | — | GND | 63 | I/O | I/O | 88 | I | $\overline{\text{OE1}}$ |
| 14 | I/O | I/O | 39 | — | Vcc1 | 64 | I/O | I/O | 89 | I | $\overline{\text{GCLR}}$ |
| 15 | I/O | I/O | 40 | I/O | I/O | 65 | I/O | I/O | 90 | I | $\overline{\text{OE2}}$/GCLK2 |
| 16 | I/O | I/O | 41 | I/O | I/O | 66 | — | Vcc2 | 91 | — | Vcc1 |
| 17 | I/O | I/O | 42 | — | NC | 67 | I/O | I/O | 92 | I/O | I/O |
| 18 | — | Vcc2 | 43 | — | GND | 68 | I/O | I/O | 93 | I/O | I/O |
| 19 | I/O | I/O | 44 | I/O | I/O | 69 | I/O | I/O | 94 | — | NC |
| 20 | I/O | I/O | 45 | I/O | I/O | 70 | — | NC | 95 | — | GND |
| 21 | I/O | I/O | 46 | I/O | I/O | 71 | I/O | I/O | 96 | I/O | I/O |
| 22 | — | NC | 47 | I/O | I/O | 72 | I/O | I/O | 97 | I/O | I/O |
| 23 | I/O | I/O | 48 | I/O | I/O | 73 | I/O | I/O | 98 | I/O | I/O |
| 24 | I/O | I/O | 49 | I/O | I/O | 74 | — | GND | 99 | I/O | I/O |
| 25 | I/O | I/O | 50 | I/O | I/O | 75 | I/O | I/O | 100 | I/O | I/O |

**INPUTS**

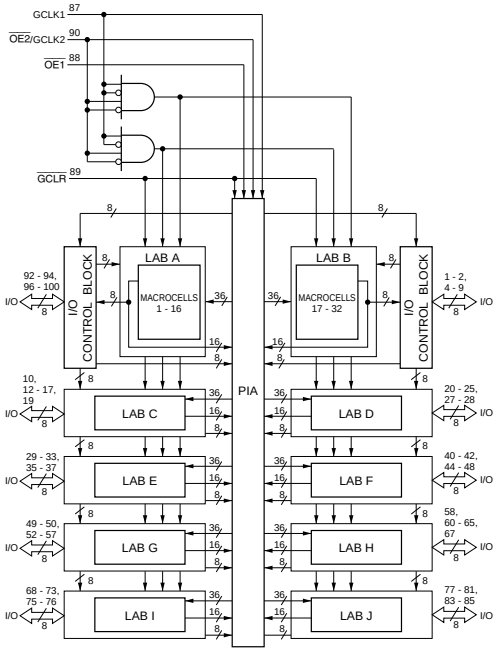
GCLK1, GCLK2 : GLOBAL CLOCK1,
$\overline{\text{GCLR}}$ : GLOBAL CLEAR
$\overline{\text{OE1}}$, $\overline{\text{OE2}}$ : OUTPUT ENABLE1, 2

**INPUTS/OUTPUTS**

I/O : INPUT/OUTPUT

**OTHER**

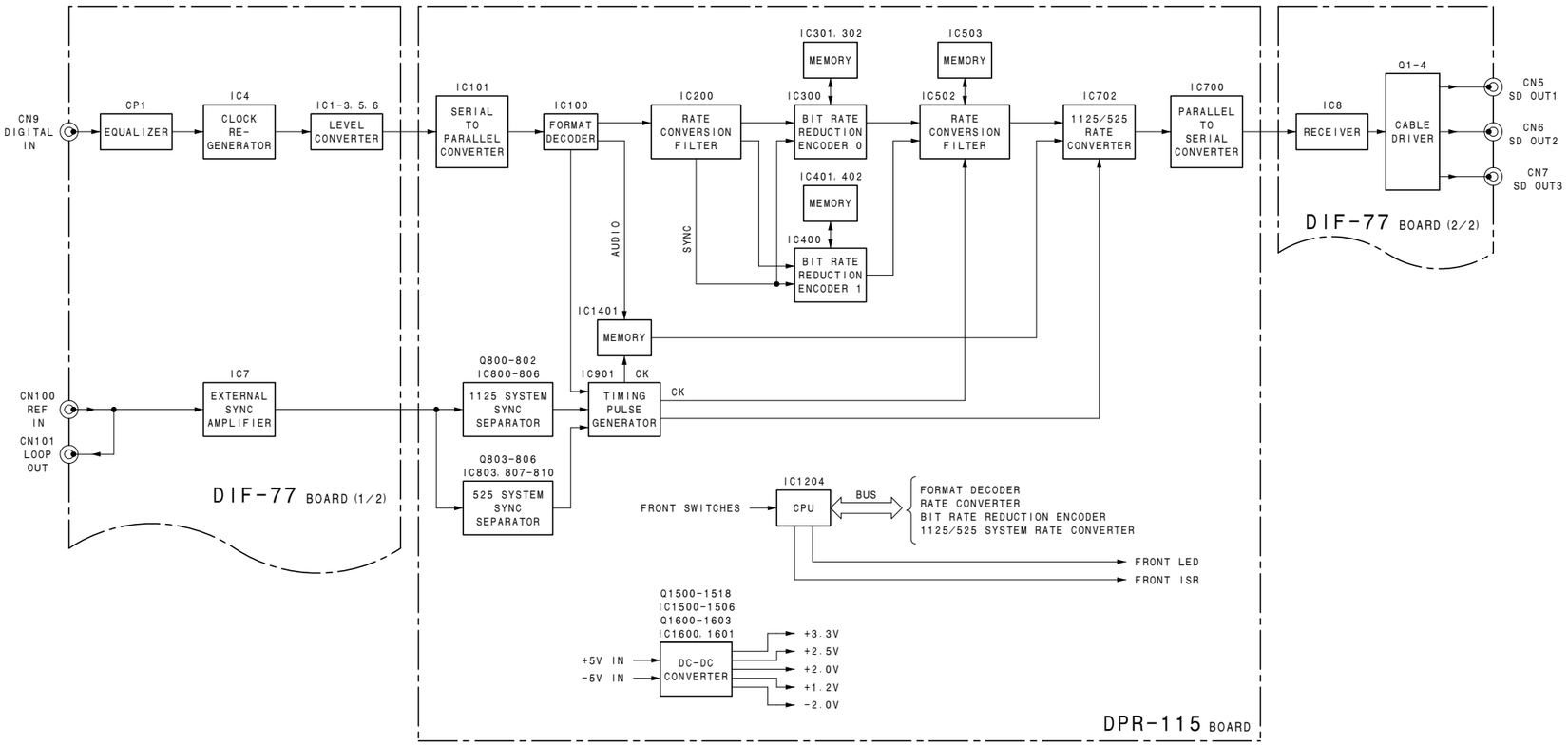
NC : NO CONNECTION




*ABOVE DIAGRAM SHOWS CONDITIONS BEFORE PROGRAMMING.

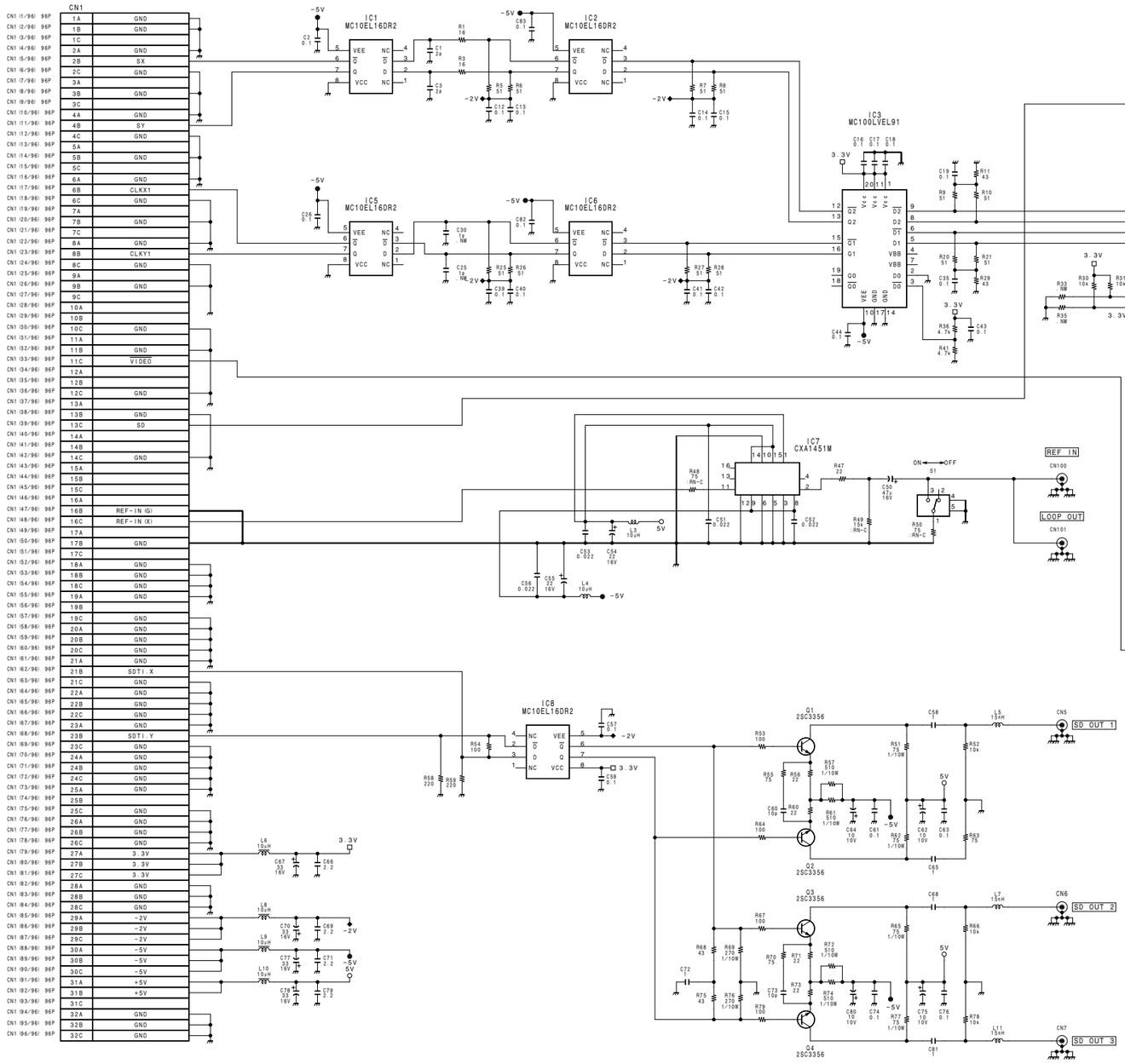
# Section 7
# Block Diagram

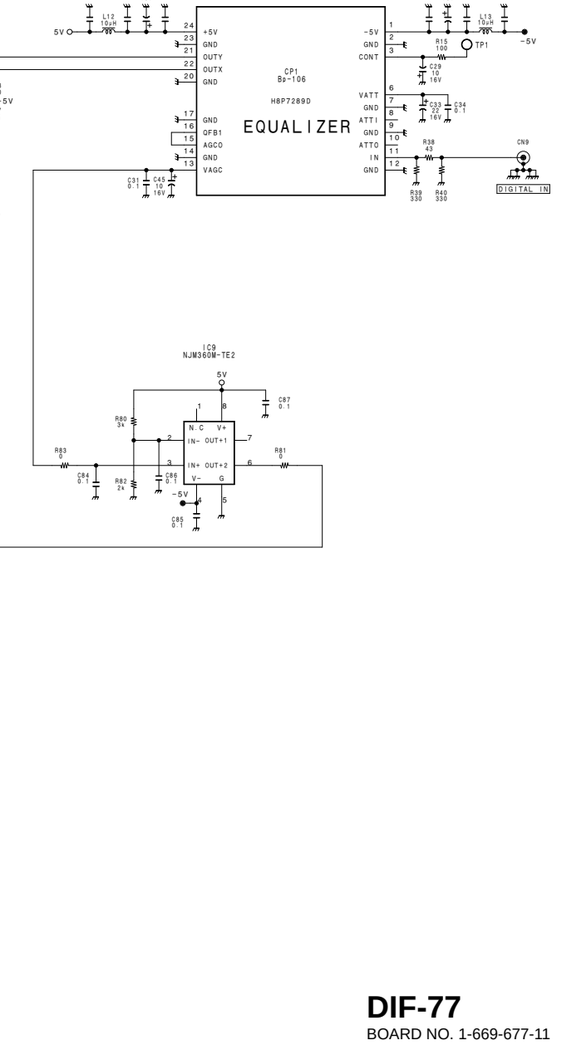
**HKPF-E270 (UCJ) : S/N 10001 and Higher**



# Section 8
# Schematic Diagrams

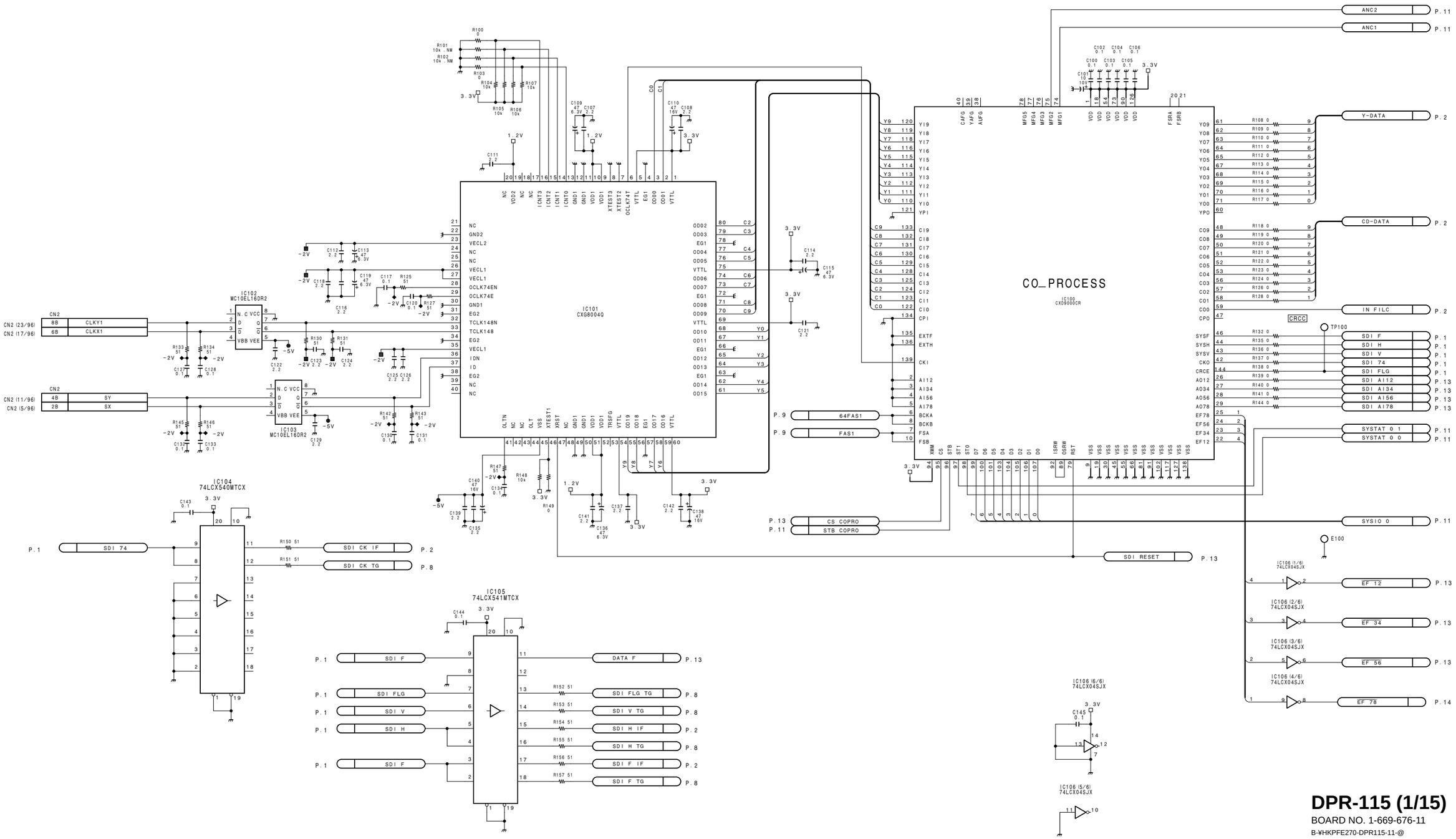
**HKPF-E270 (UCJ) : S/N 10001 and Higher**




**DIF-77**
BOARD NO. 1-669-677-11
B-¥HKPFE270-DIF77-11-@

**HKPF-E270 (UCJ) : S/N 10001 and Higher**

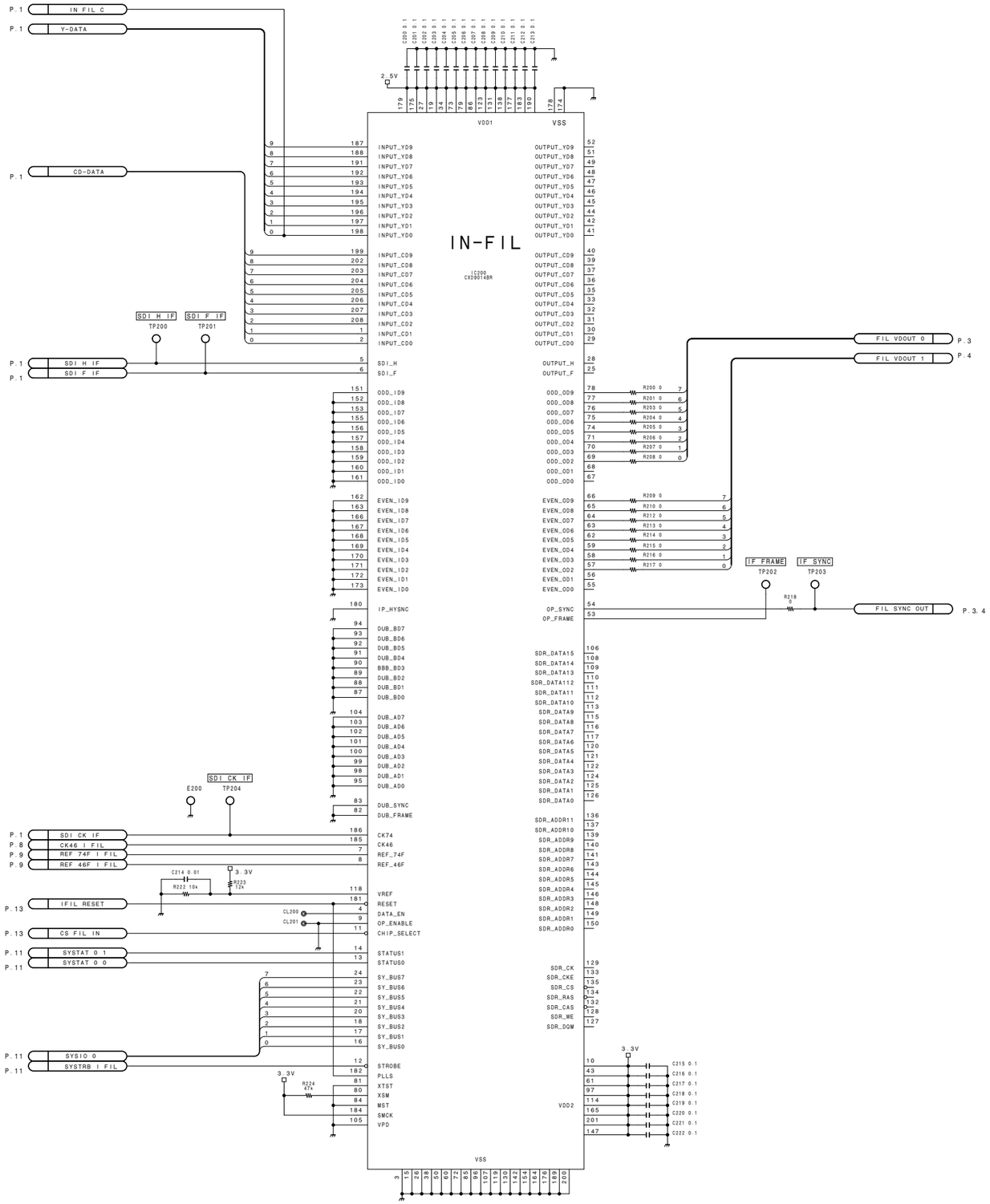



**DPR-115 (1/15)**

BOARD NO. 1-669-676-11

B-¥HKPFE270-DPR115-11-@

**HKPF-E270 (UCJ) : S/N 10001 and Higher**

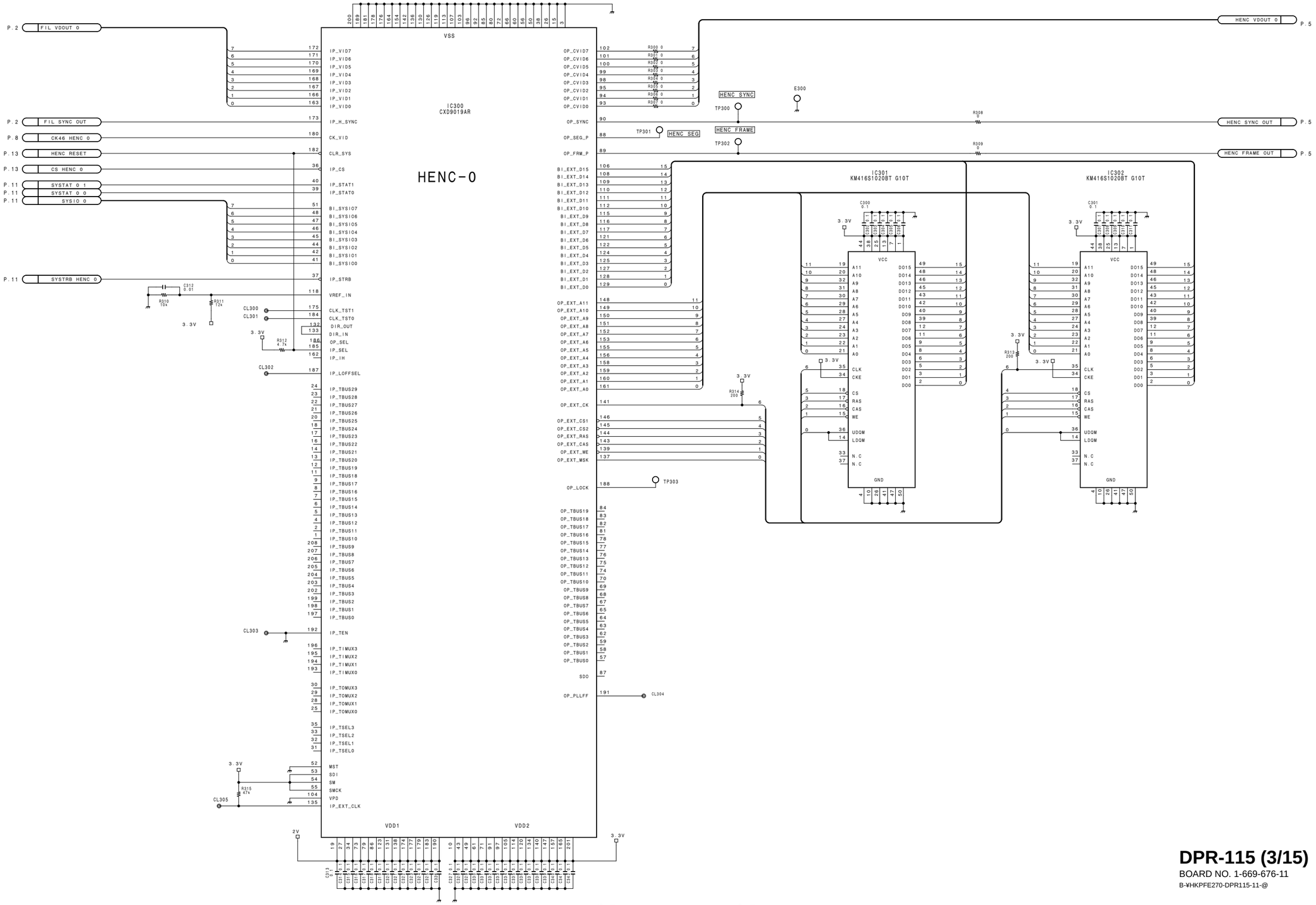




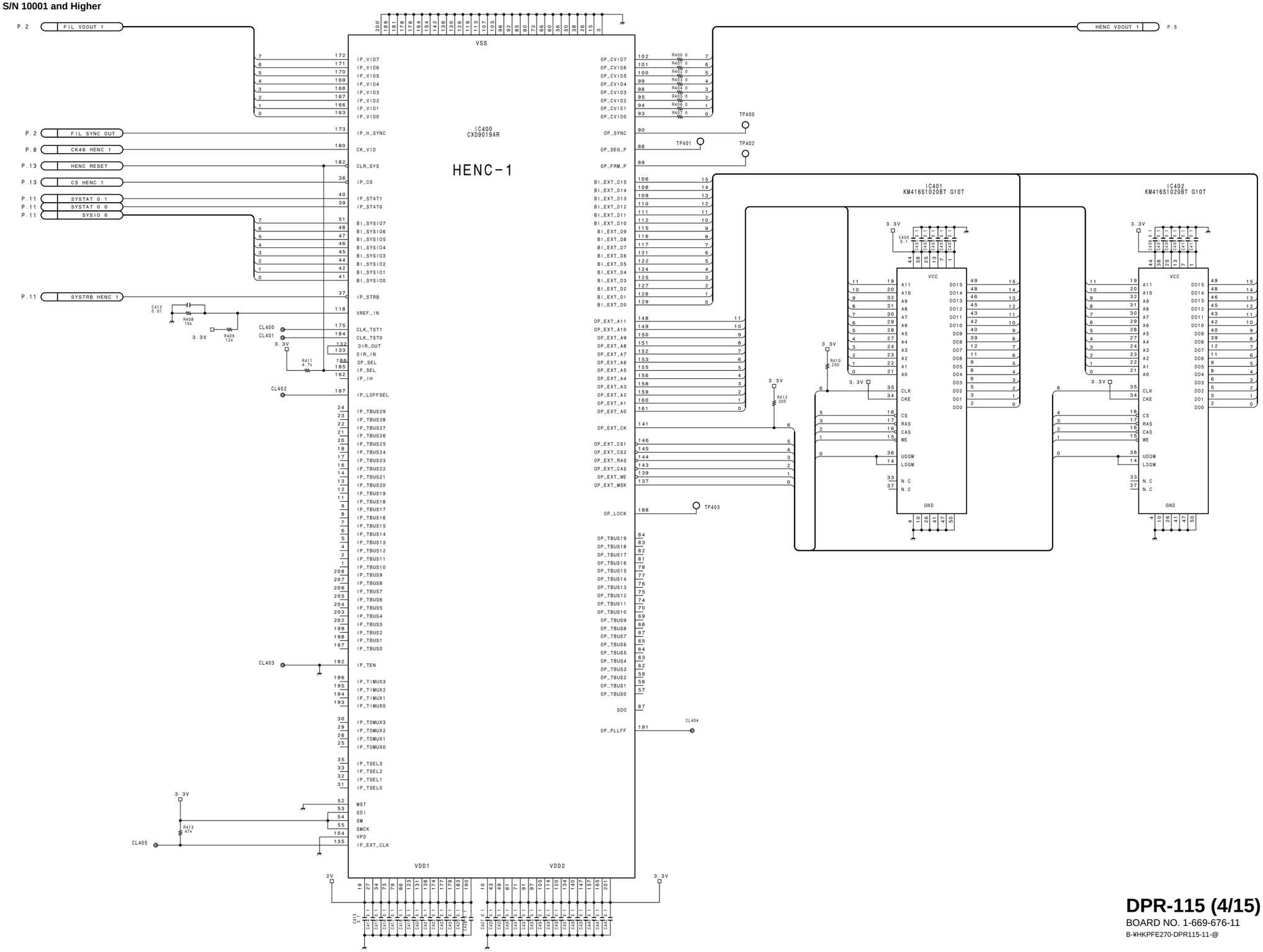

**DPR-115 (2/15)**
BOARD NO. 1-669-676-11
B-¥HKPFE270-DPR115-11-@

HKPF-E270 MM

**HKPF-E270 (UCJ) : S/N 10001 and Higher**



**HKPF-E270 (UCJ) : S/N 10001 and Higher**






**DPR-115 (4/15)**
BOARD NO. 1-669-676-11
B-¥HKPFE270-DPR115-11-@

HKPF-E270 MM

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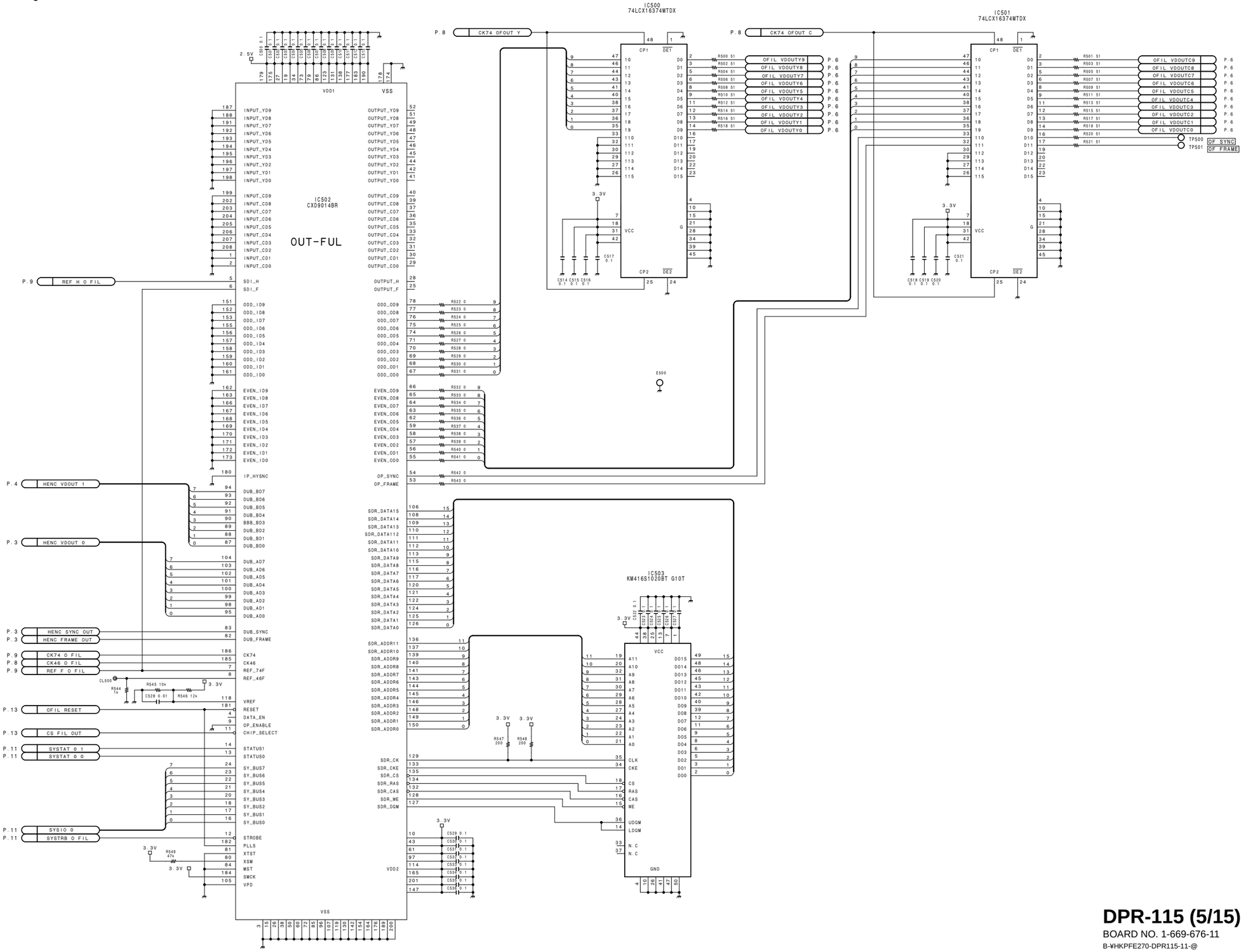
**HKPF-E270 (UCJ) : S/N 10001 and Higher**

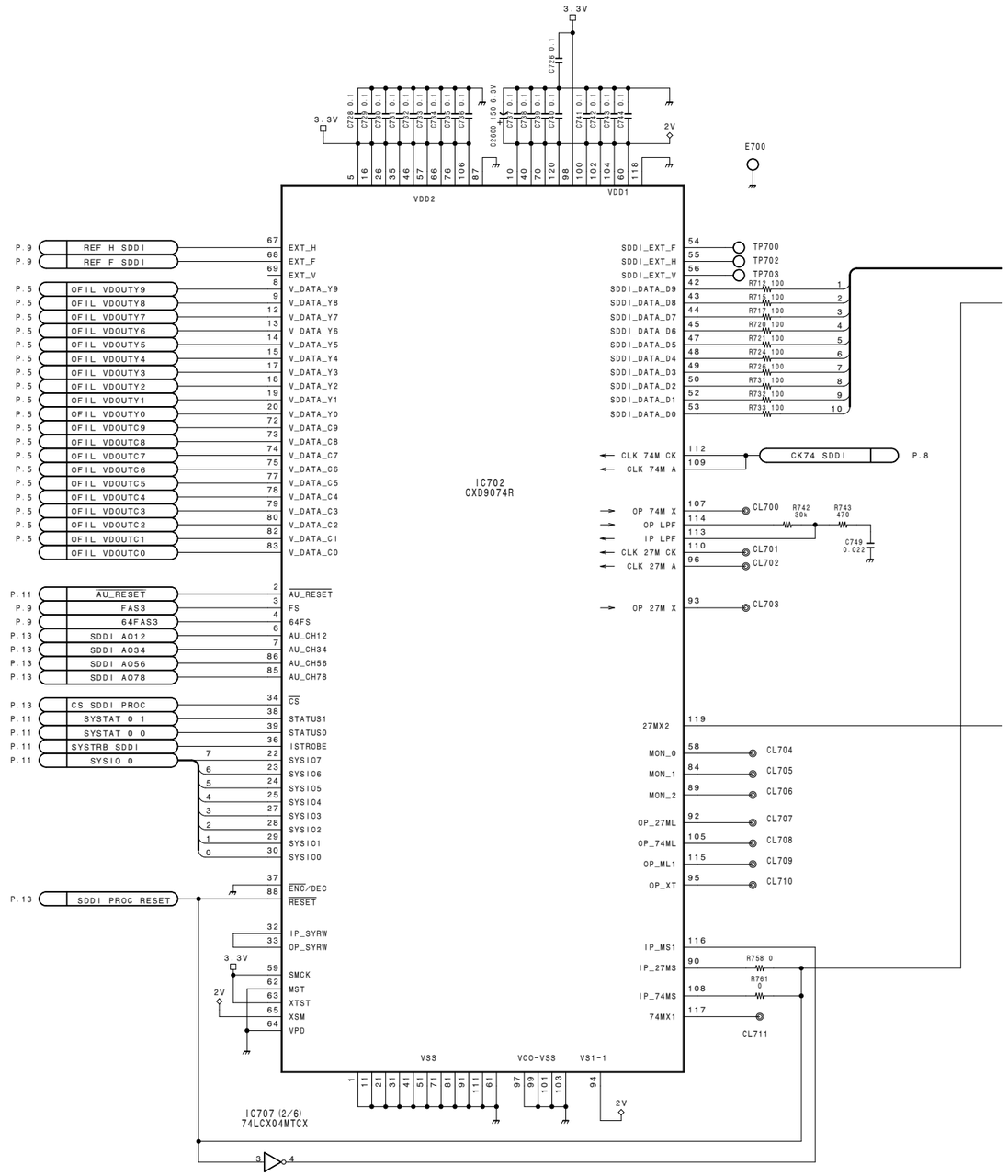





**DPR-115 (5/15)**
BOARD NO. 1-669-676-11
B-¥HKPFE270-DPR115-11-@

DPR-115 (6/15)

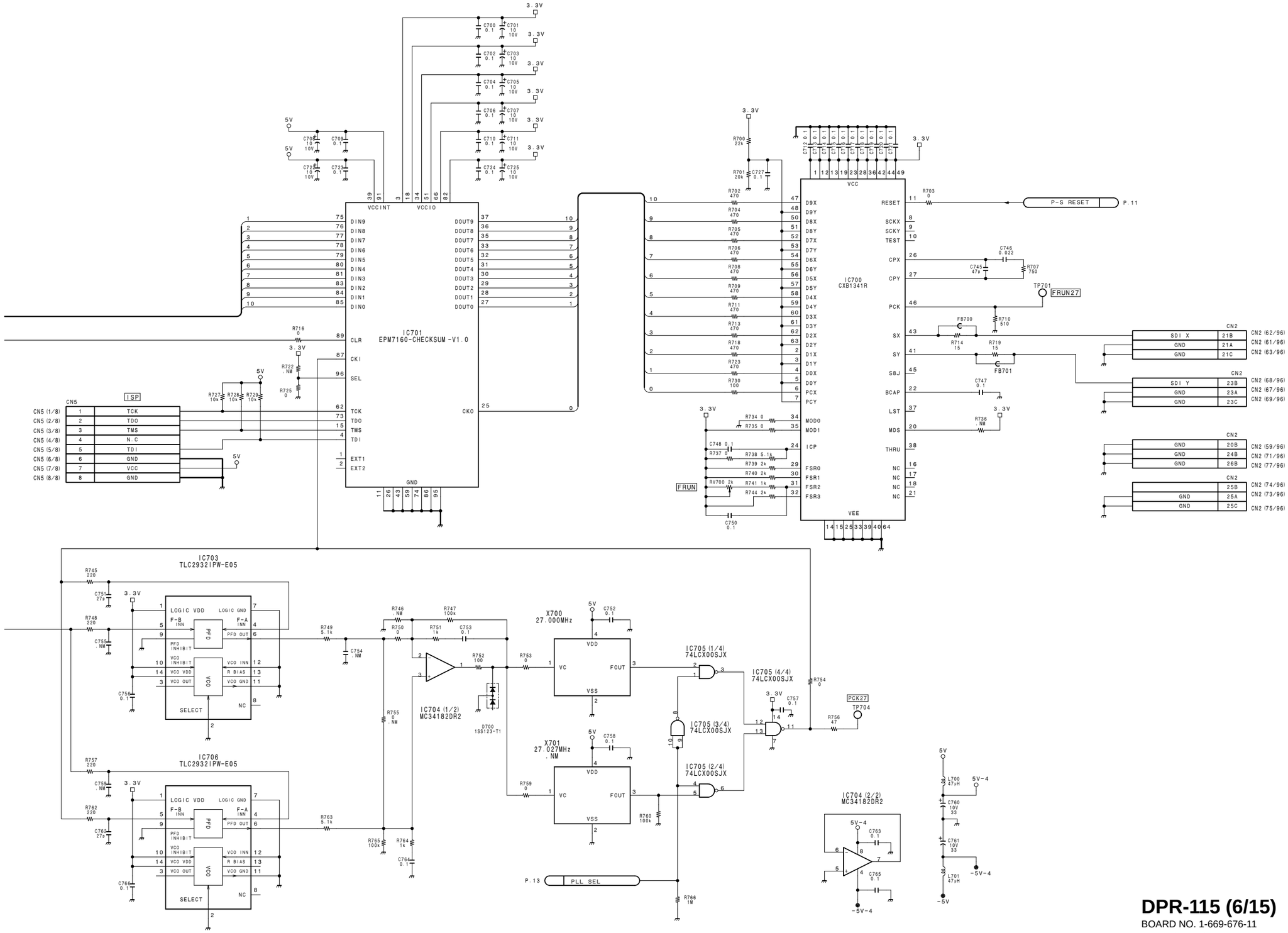
**HKPF-E270 (UCJ) : S/N 10001 and Higher**





8-8

DPR-115 (6/15)

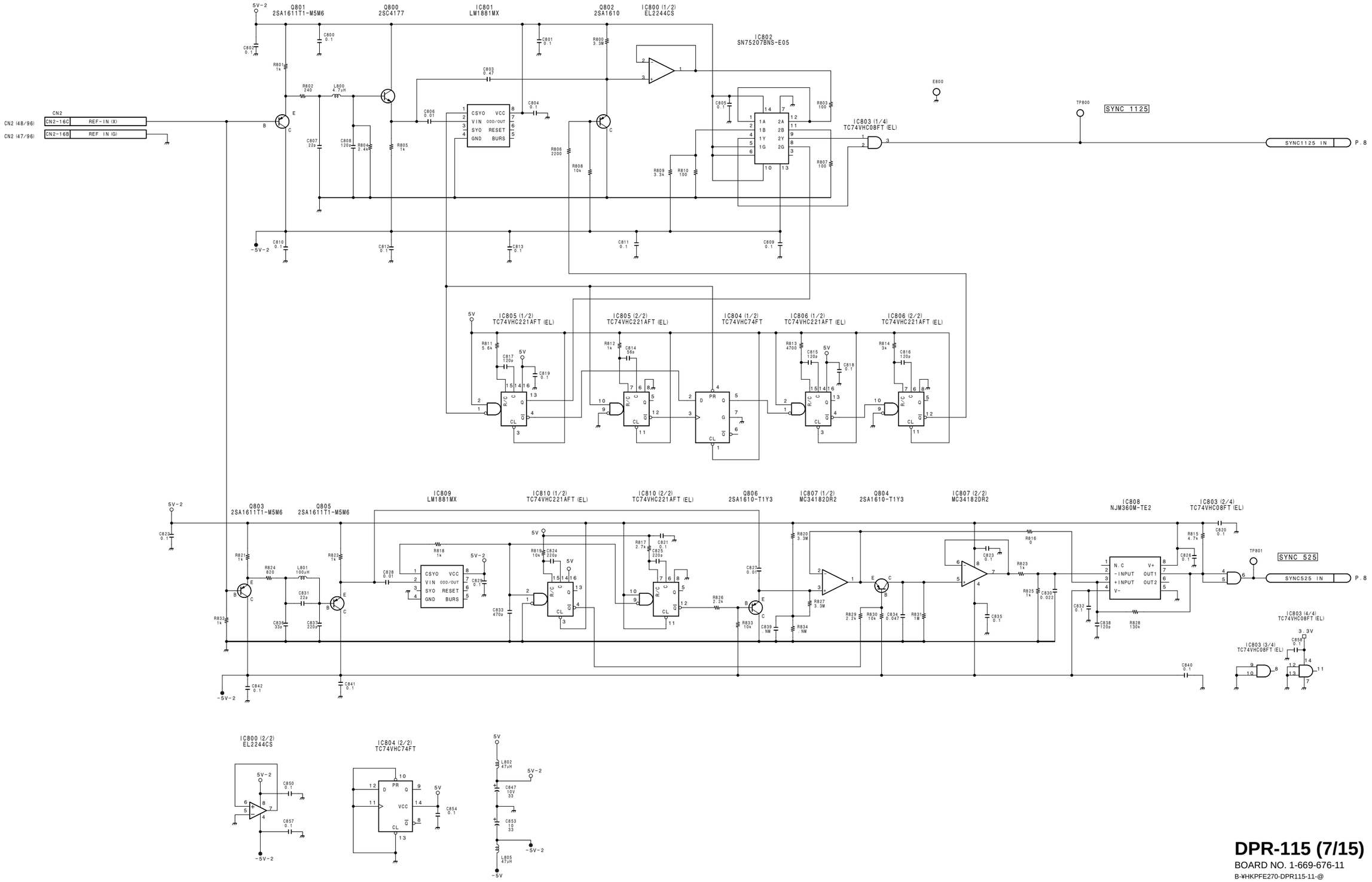



**DPR-115 (6/15)**

BOARD NO. 1-669-676-11

B-¥HKPFE270-DPR115-11-@

**HKPF-E270 (UCJ) : S/N 10001 and Higher**

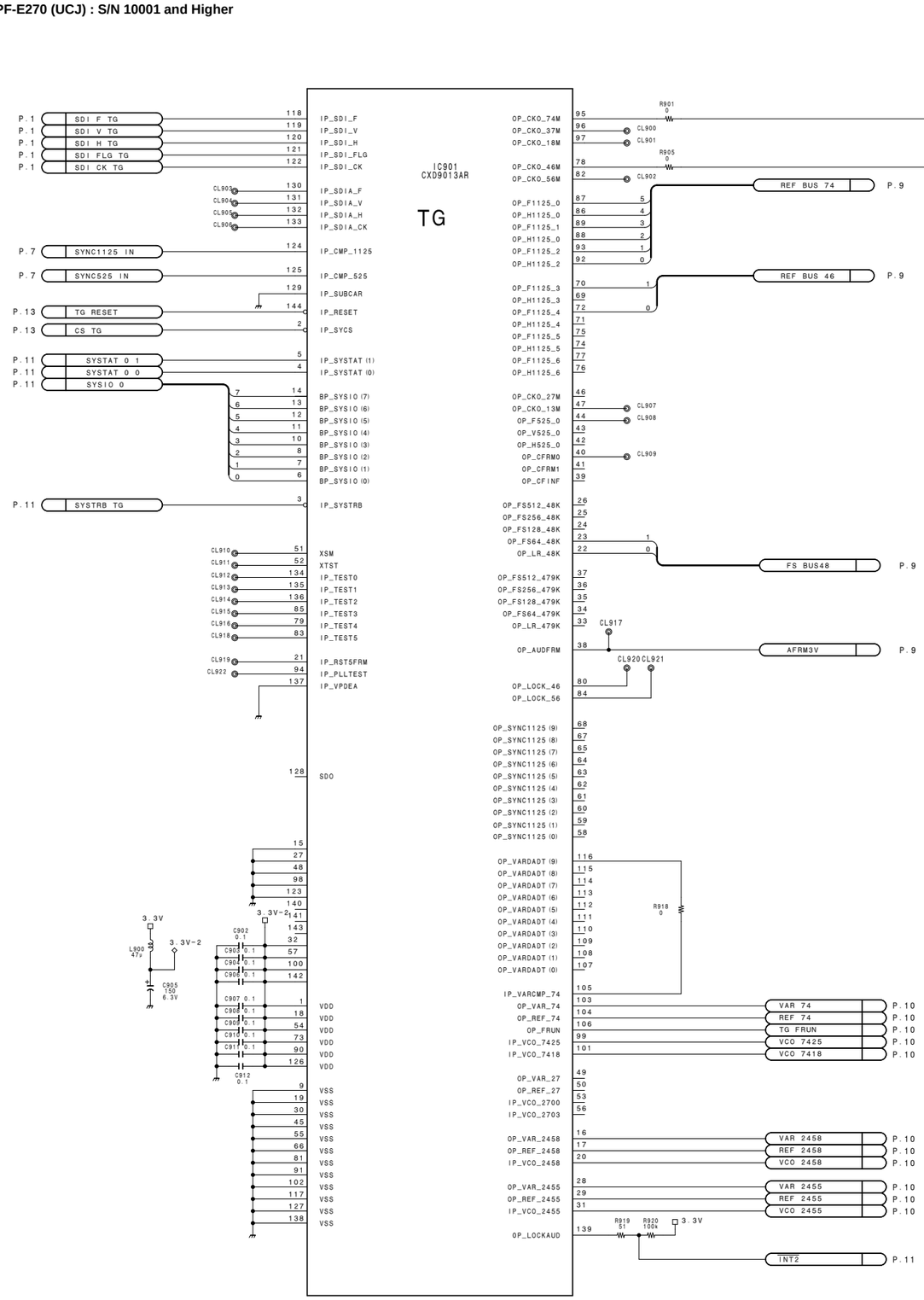


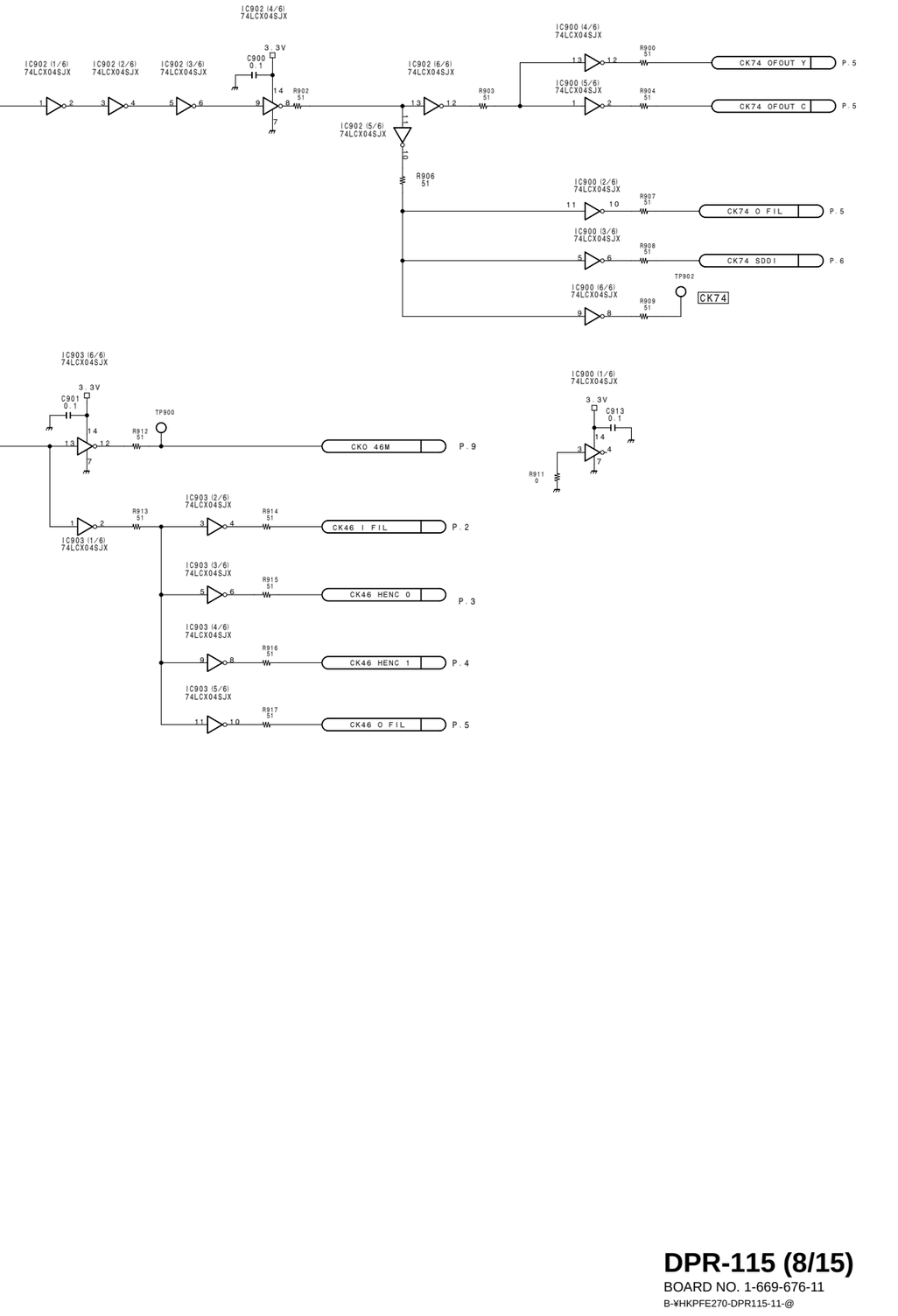

## DPR-115 (7/15)

BOARD NO. 1-669-676-11

B-¥HKPFE270-DPR115-11-@

**HKPF-E270 (UCJ) : S/N 10001 and Higher**

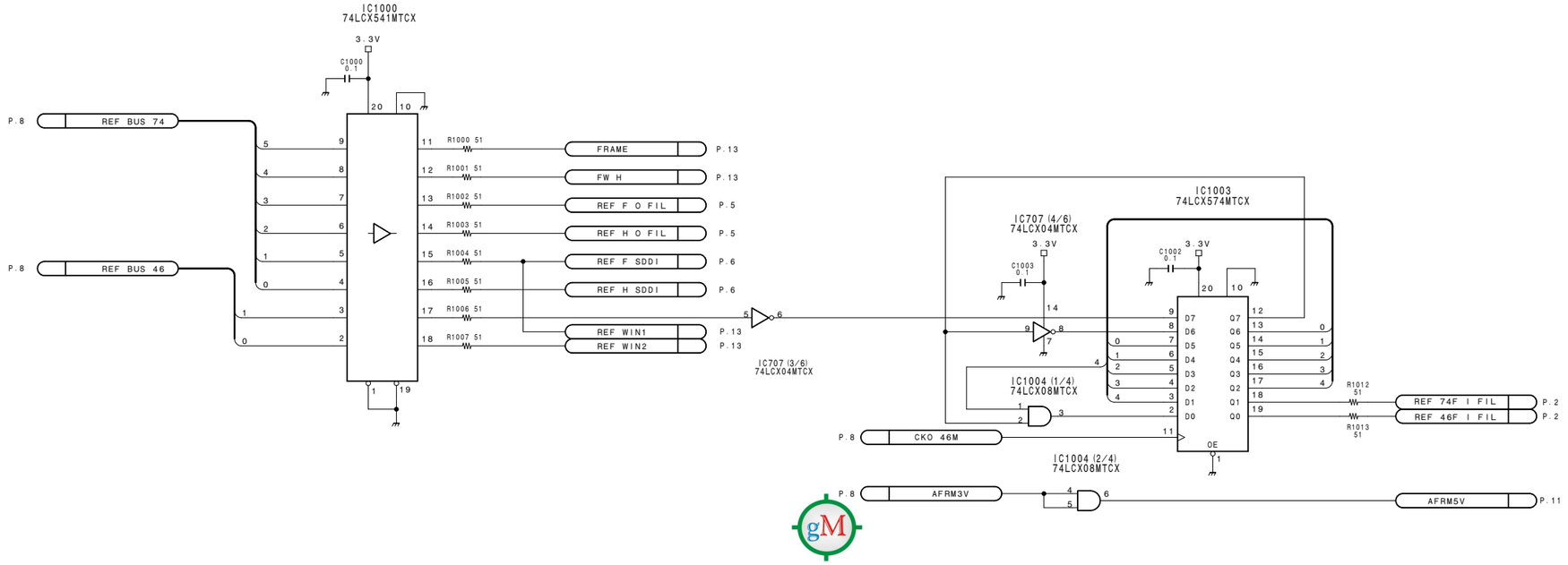


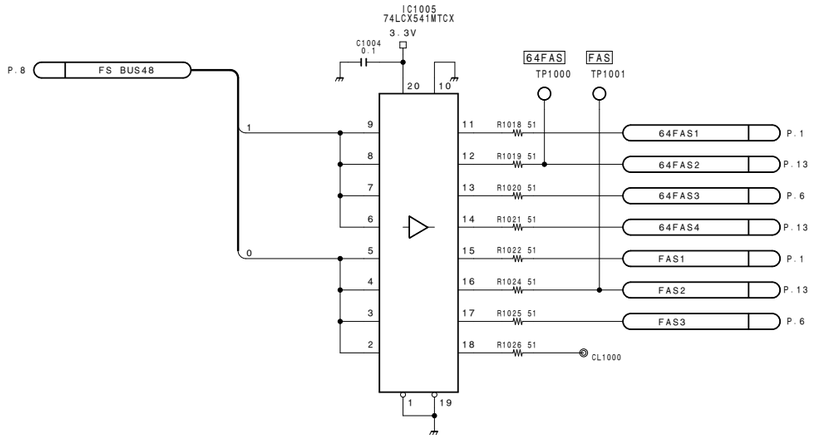



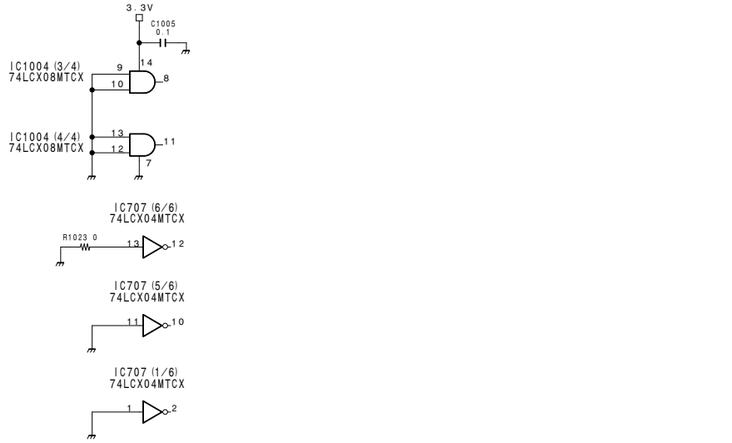



**DPR-115 (8/15)**
BOARD NO. 1-669-676-11
B-¥HKPFE270-DPR115-11-@

**HKPF-E270 (UCJ) : S/N 10001 and Higher**



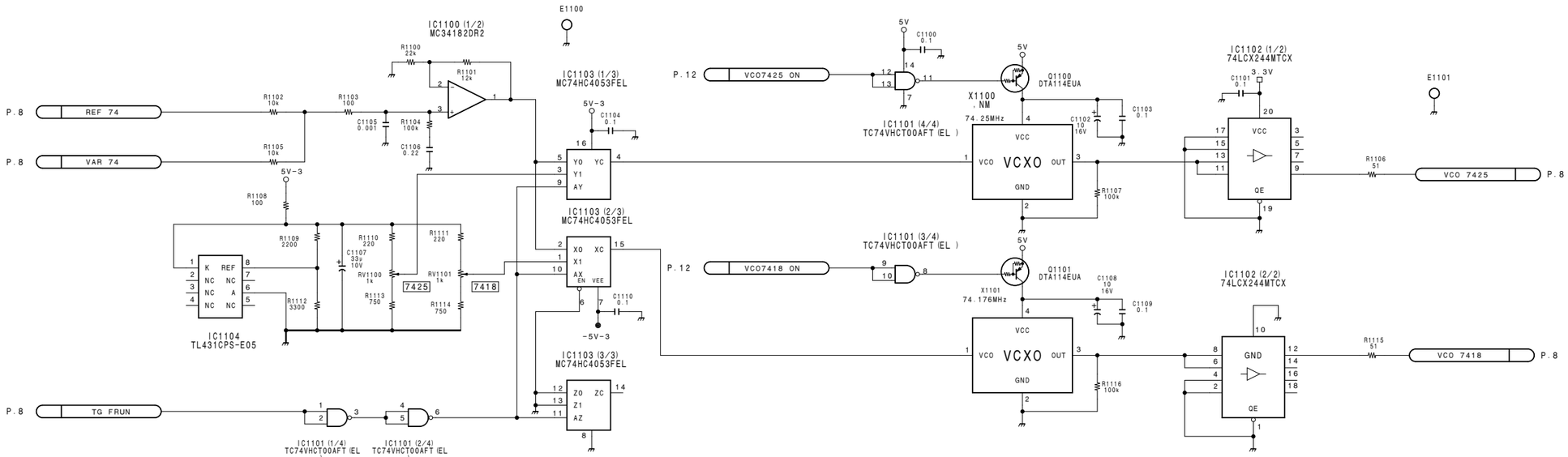




**DPR-115 (9/15)**

BOARD NO. 1-669-676-11

B-¥HKPFE270-DPR115-11-@

**HKPF-E270 (UCJ) : S/N 10001 and Higher**

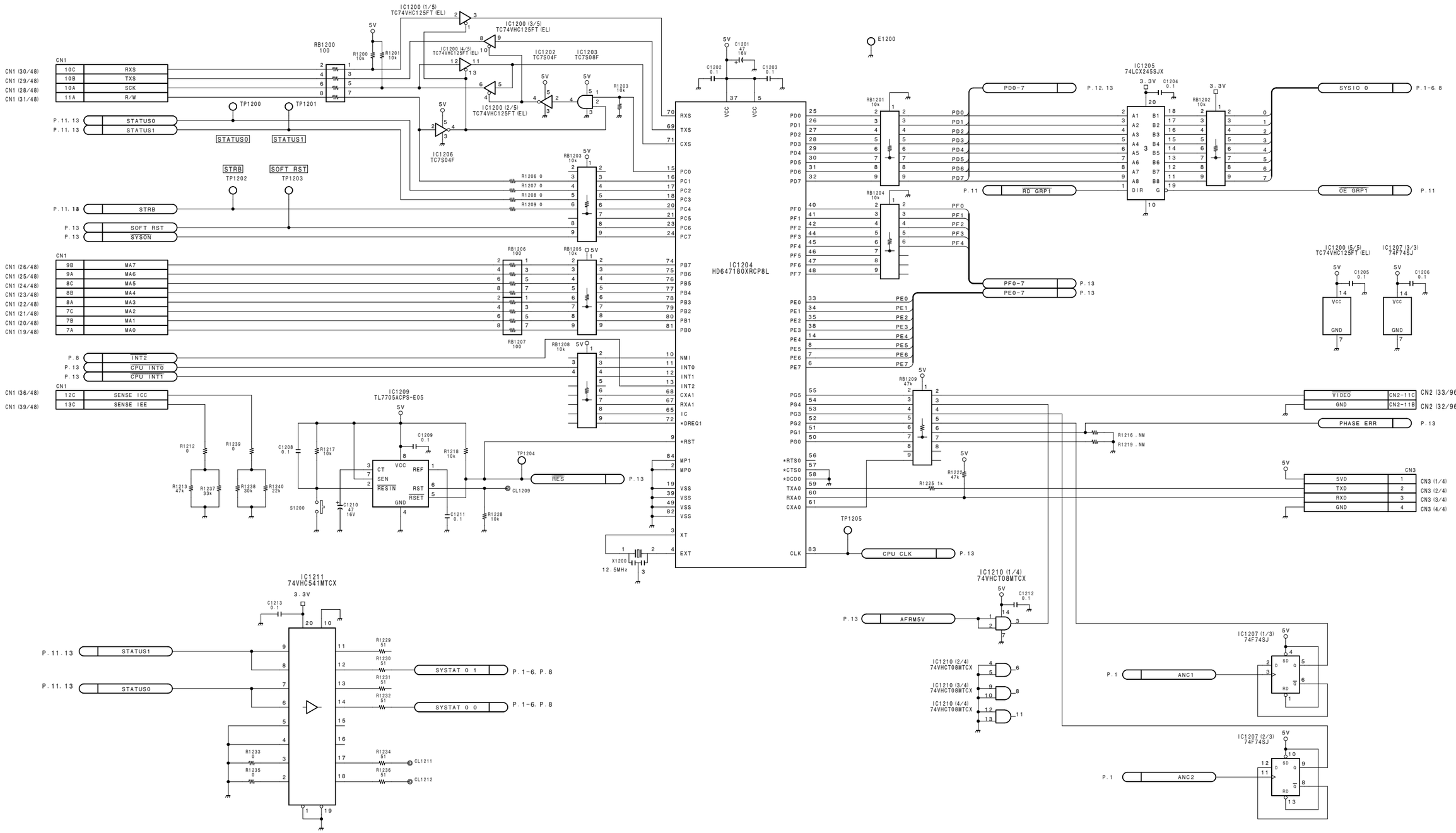


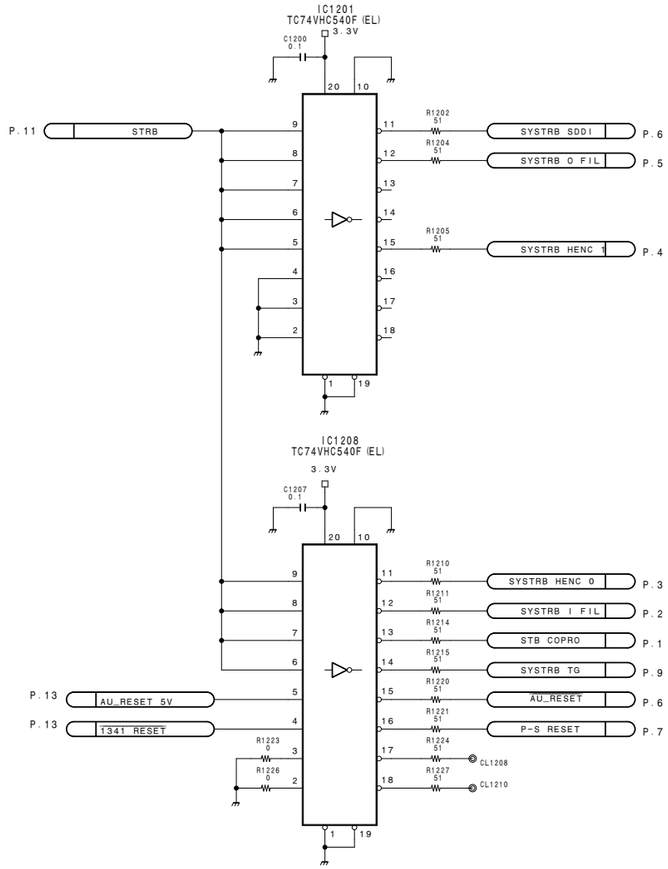

**DPR-115 (10/15)**

BOARD NO. 1-669-676-11

B-¥HKPFE270-DPR115-11-@

**HKPF-E270 (UCJ) : S/N 10001 and Higher**



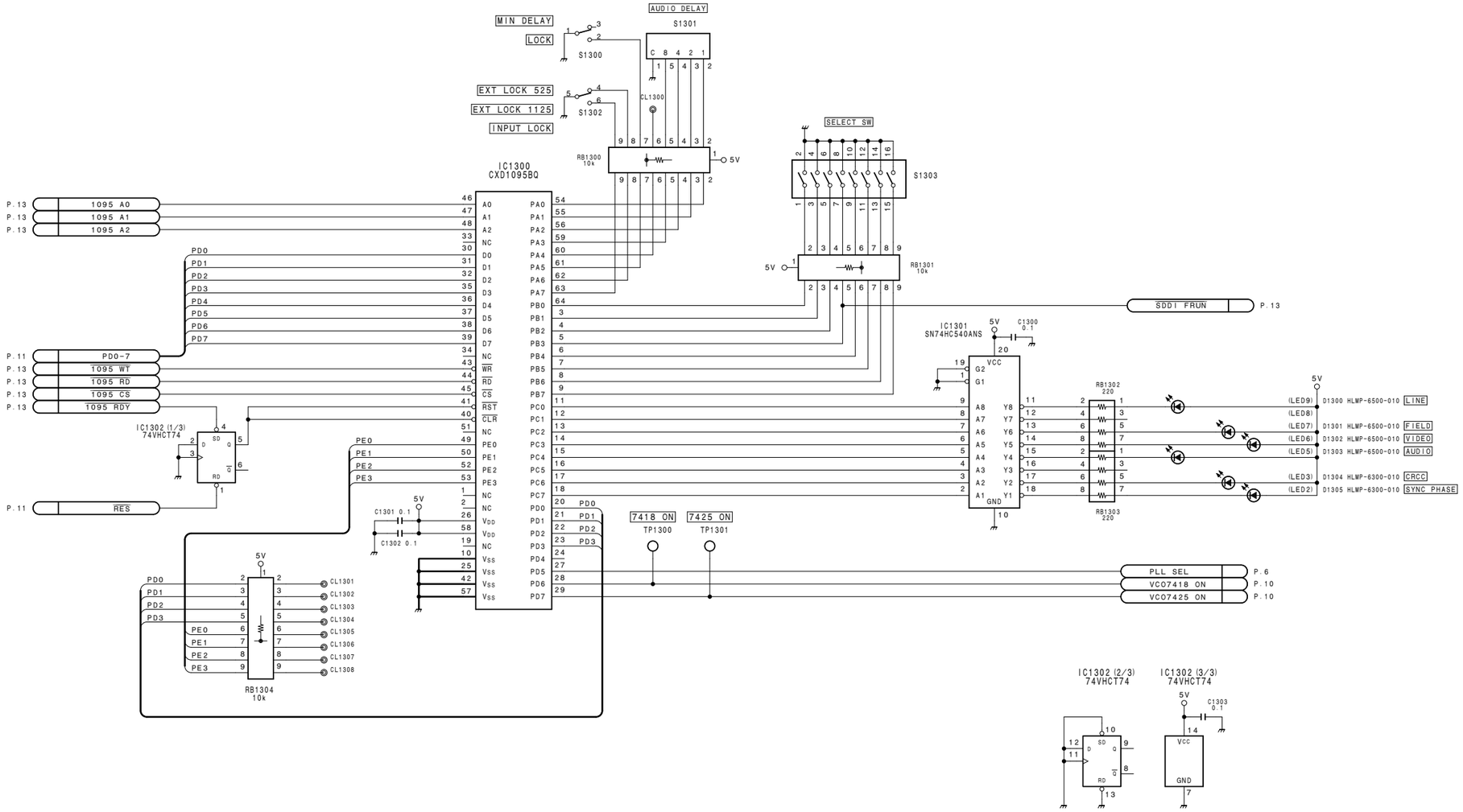



## DPR-115 (11/15)

BOARD NO. 1-669-676-11

B-¥HKPFE270-DPR115-11-@

**HKPF-E270 (UCJ) : S/N 10001 and Higher**




## DPR-115 (12/15)

BOARD NO. 1-669-676-11

B-¥HKPFE270-DPR115-11-@

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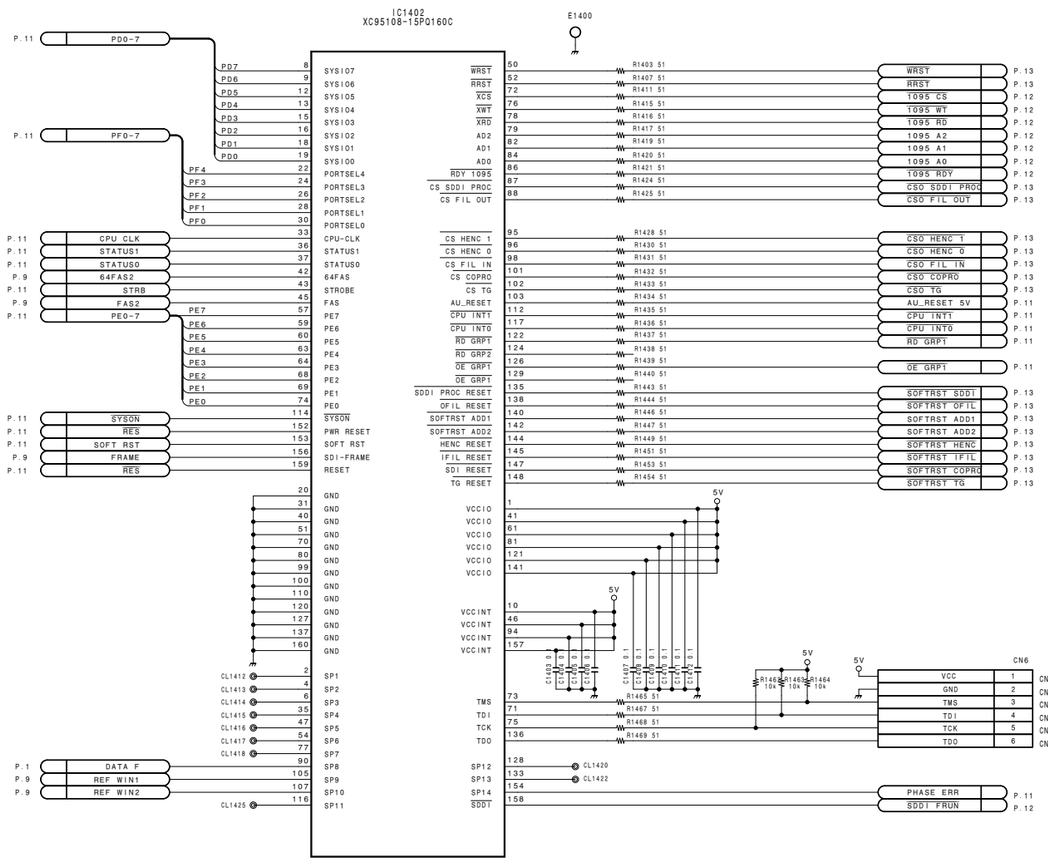
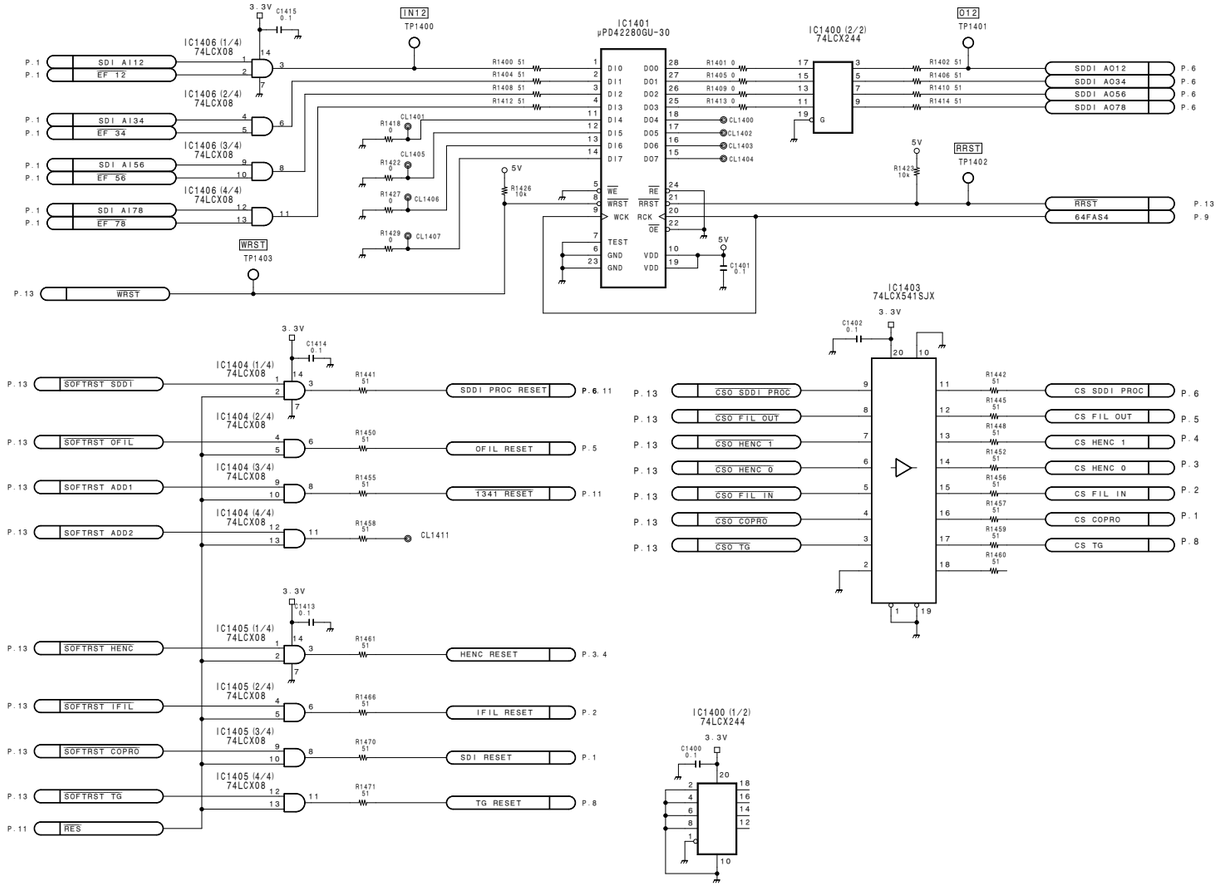
DPR-115 (13/15)

**HKPF-E270 (UCJ) : S/N 10001 and Higher**



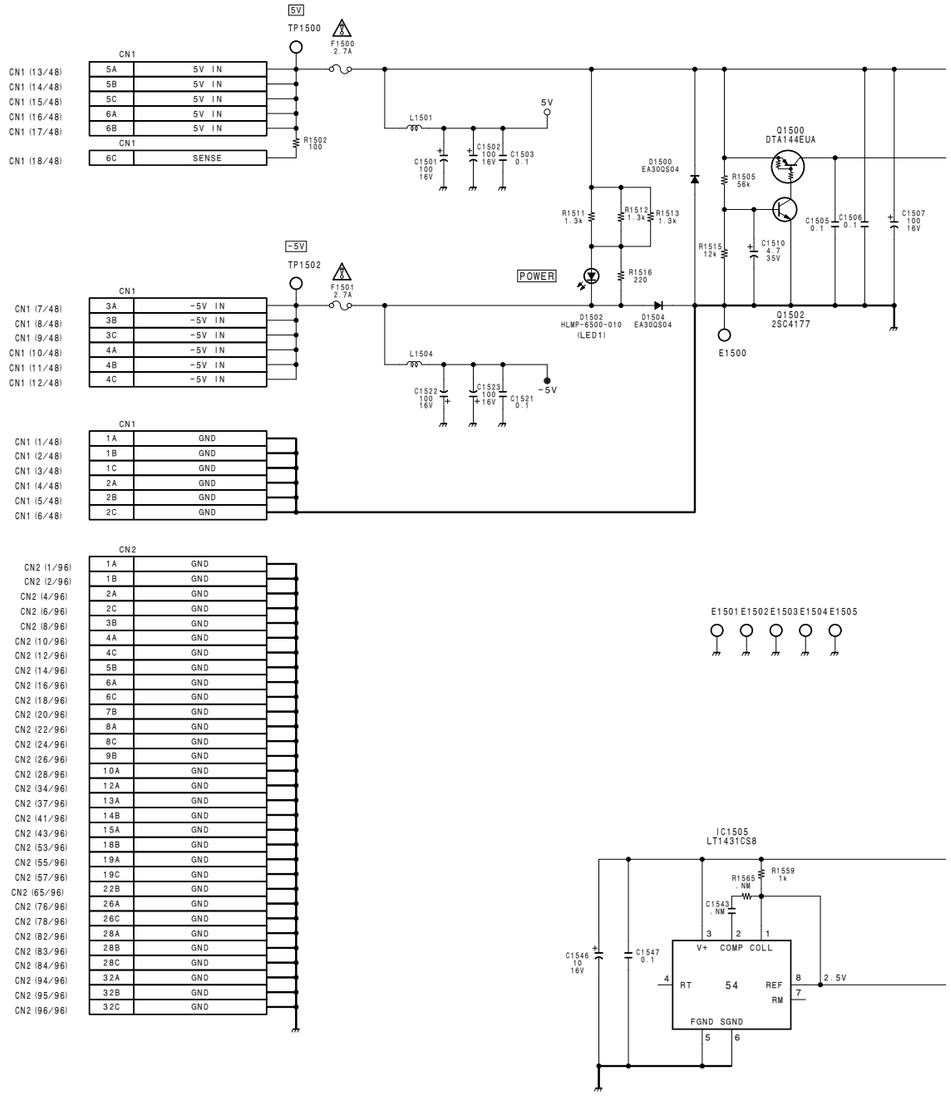

**DPR-115 (13/15)**

BOARD NO. 1-669-676-11

B-¥HKPFE270-DPR115-11-@

DPR-115 (14/15)

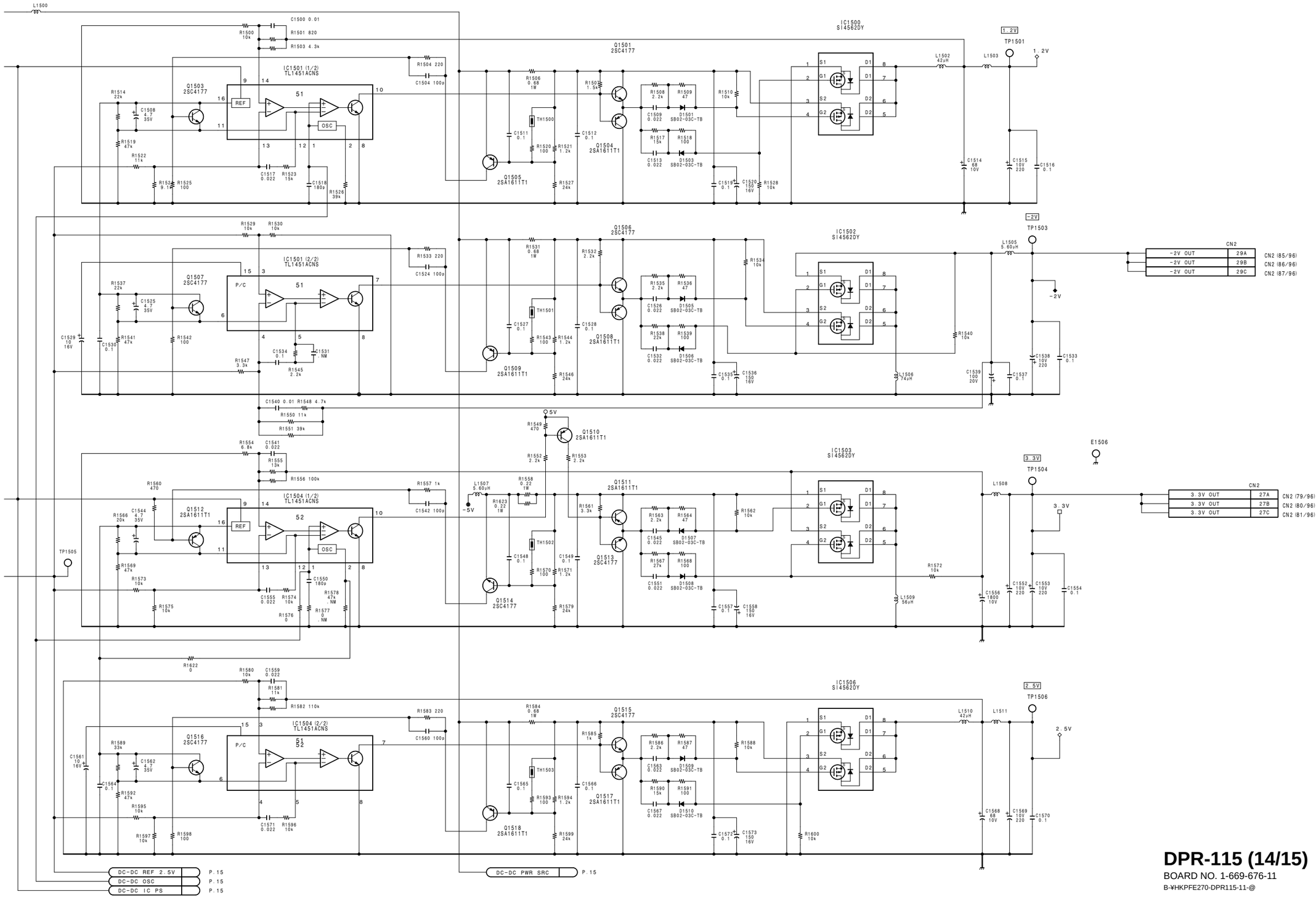
**HKPF-E270 (UCJ) : S/N 10001 and Higher**





8-18

DPR-115 (14/15)

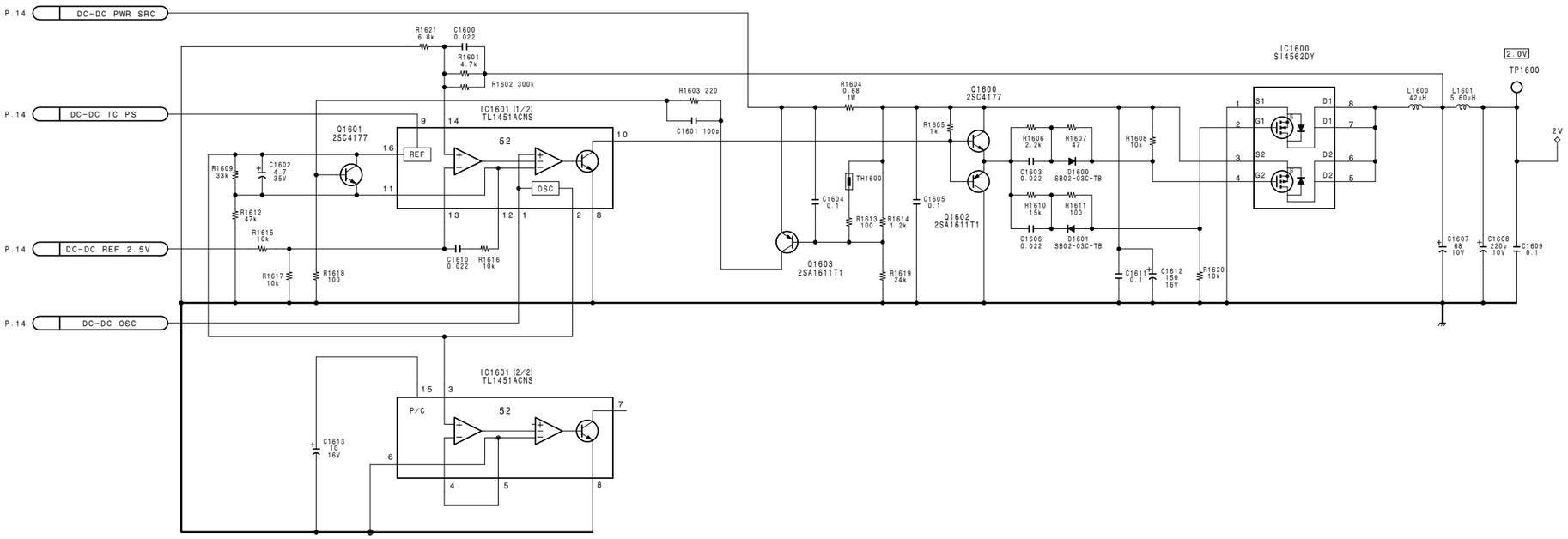



**DPR-115 (14/15)**

BOARD NO. 1-669-676-11

B-¥HKPFE270-DPR115-11-@

**HKPF-E270 (UCJ) : S/N 10001 and Higher**

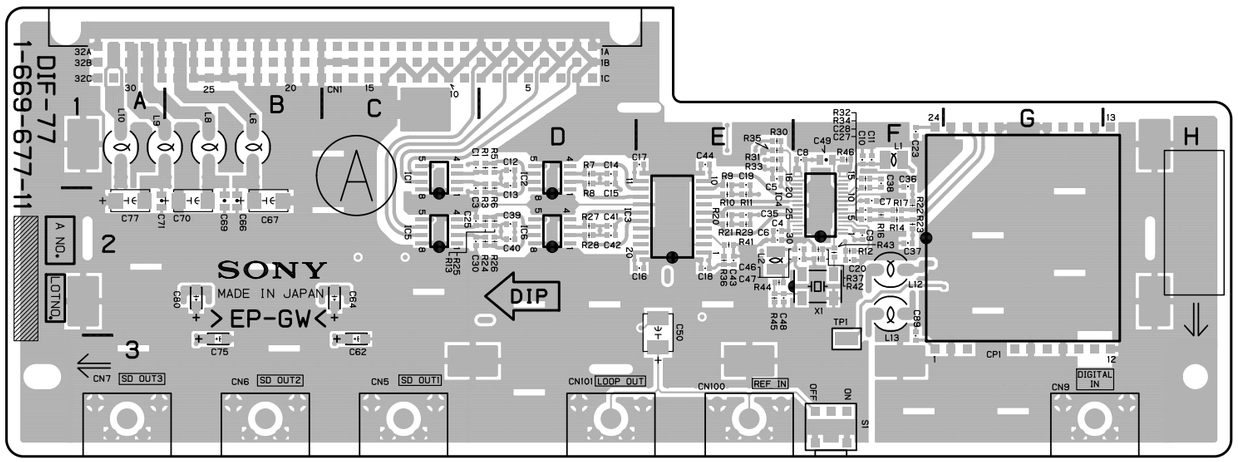



**DPR-115 (15/15)**

BOARD NO. 1-669-676-11

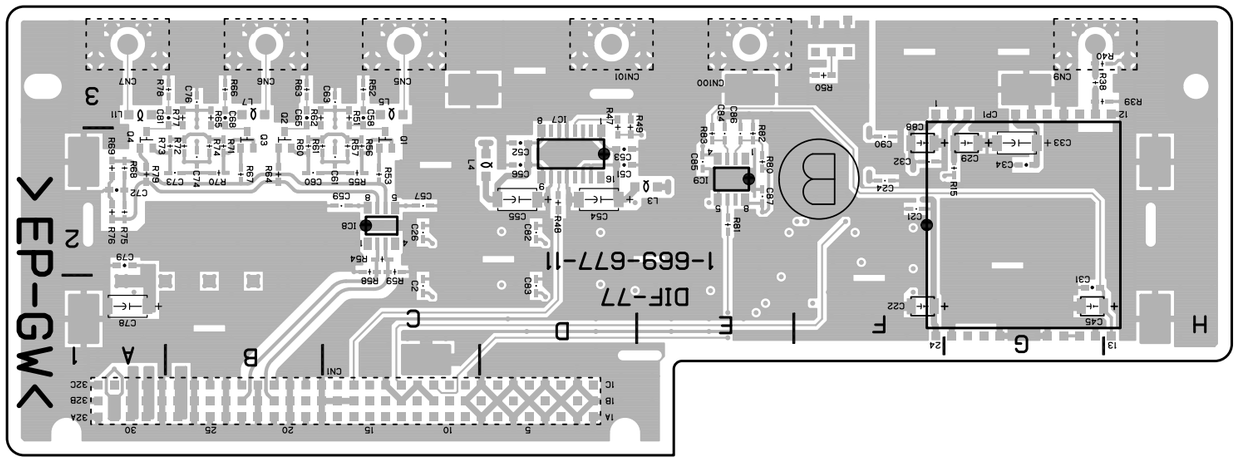
B-¥HKPFE270-DPR115-11-@

# Section 9
# Board Layouts




HKPF-E270

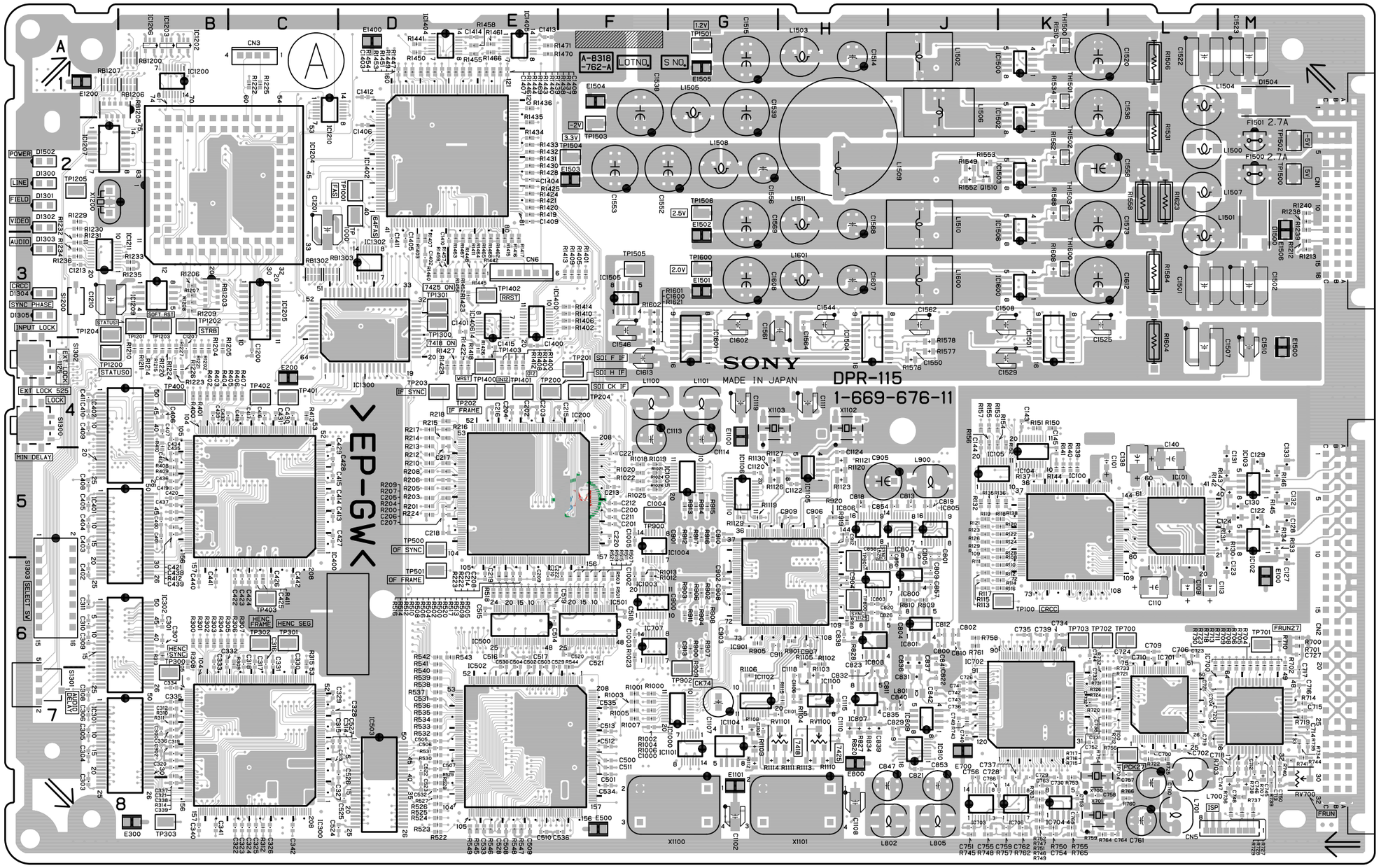
**DIF-77** -A SIDE-
SUFFIX: -11




**DIF-77** -B SIDE-
SUFFIX: -11

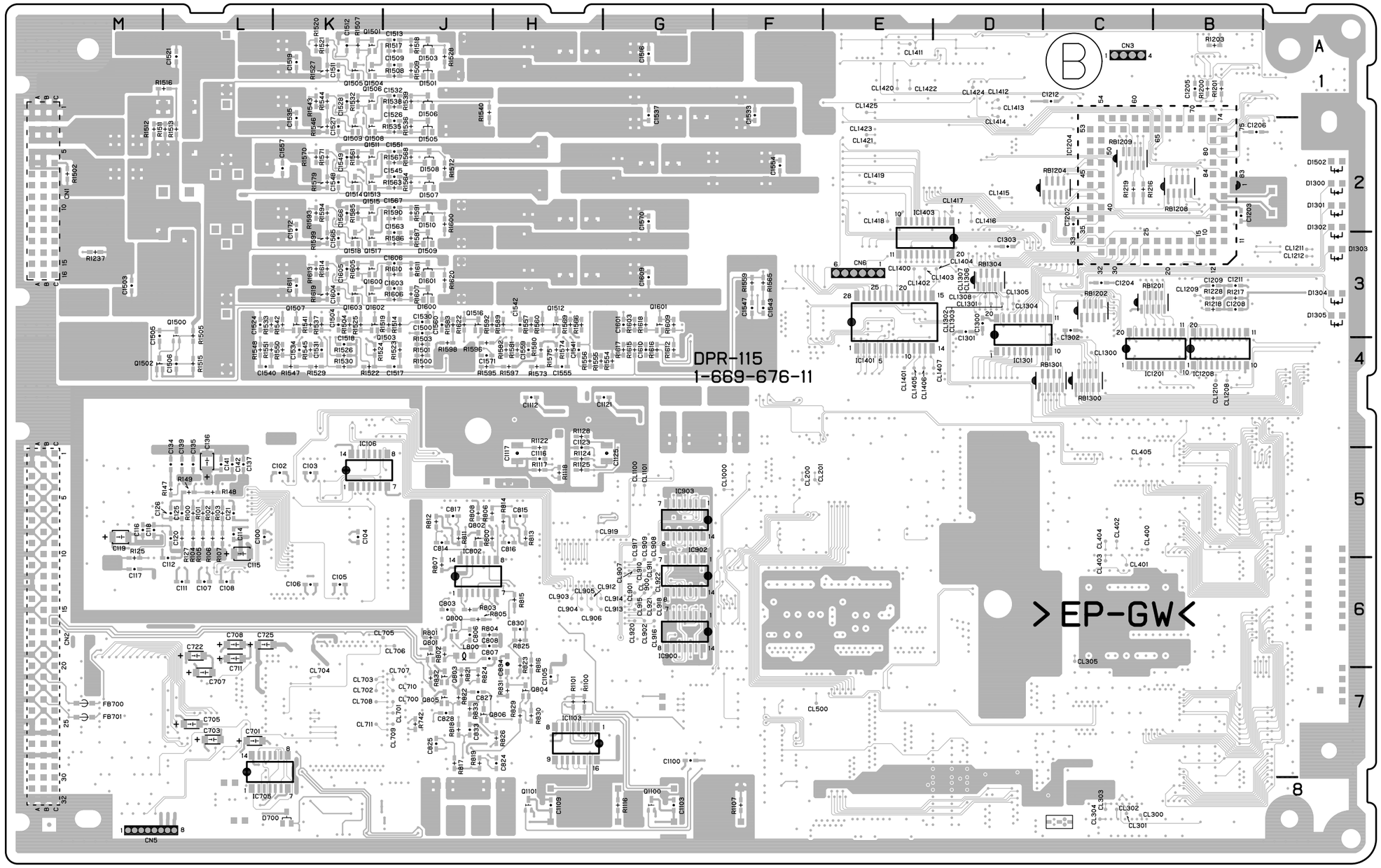
DIF-77 (1-669-677-11)

| | | | | | |
|---|---|---|---|---|---|
| C1 | C1 | CN1 | C1 | R57 | *C2 |
| C2 | *C1 | CN5 | C3 | R58 | *C2 |
| C3 | C2 | CN6 | B3 | R59 | *C2 |
| C4 | E2 | CN7 | A3 | R60 | *B2 |
| C5 | E1 | CN9 | G3 | R61 | *B2 |
| C6 | E2 | CN100 | E3 | R62 | *B3 |
| C7 | F2 | CN101 | D3 | R63 | *B3 |
| C8 | F1 | | | R64 | *B2 |
| C9 | F2 | CP1 | F3 | R65 | *B3 |
| C10 | F1 | | | R66 | *B3 |
| C11 | F1 | IC1 | C2 | R67 | *B2 |
| C12 | D1 | IC2 | D2 | R68 | *A2 |
| C13 | D1 | IC3 | E2 | R69 | *A2 |
| C14 | D1 | IC4 | F2 | R70 | *B2 |
| C15 | D1 | IC5 | C2 | R71 | *B2 |
| C16 | E2 | IC6 | D2 | R72 | *B2 |
| C17 | E1 | IC7 | *D2 | R73 | *B2 |
| C18 | E2 | IC8 | *C2 | R74 | *B2 |
| C19 | E1 | IC9 | *E2 | R75 | *A2 |
| C20 | F2 | | | R76 | *A2 |
| C21 | *F2 | L1 | F1 | R77 | *B3 |
| C22 | *F1 | L2 | E2 | R78 | *B3 |
| C23 | F1 | L3 | *E2 | R79 | *A2 |
| C24 | *F2 | L4 | *D2 | R80 | *E2 |
| C25 | C2 | L5 | *C3 | R81 | *E2 |
| C26 | *C2 | L6 | B1 | R82 | *E2 |
| C27 | F2 | L7 | *B3 | R83 | *E2 |
| C28 | F2 | L8 | B1 | | |
| C29 | *G2 | L9 | A1 | S1 | F3 |
| C30 | C2 | L10 | A1 | | |
| C31 | *G1 | L11 | *A3 | TP1 | F3 |
| C32 | *F2 | L12 | F2 | | |
| C33 | *G2 | L13 | F2 | X1 | F2 |
| C34 | *G2 | | | | |
| C35 | E2 | Q1 | *C2 | *: B SIDE | |
| C36 | F1 | Q2 | *B2 | | |
| C37 | F2 | Q3 | *B2 | | |
| C38 | F1 | Q4 | *A2 | | |
| C39 | D2 | | | | |
| C40 | D2 | R1 | D1 | | |
| C41 | D2 | R3 | D2 | | |
| C42 | D2 | R5 | D1 | | |
| C43 | E2 | R6 | D2 | | |
| C44 | E1 | R7 | D1 | | |
| C45 | *G1 | R8 | D1 | | |
| C46 | F2 | R9 | E1 | | |
| C47 | F2 | R10 | E2 | | |
| C48 | E2 | R11 | E2 | | |
| C49 | F1 | R12 | F2 | | |
| C50 | E2 | R13 | D2 | | |
| C51 | *D2 | R14 | F2 | | |
| C52 | *D2 | R15 | *G2 | | |
| C53 | *D2 | R16 | F2 | | |
| C54 | *D2 | R17 | F2 | | |
| C55 | *D2 | R20 | E2 | | |
| C56 | *D2 | R21 | E2 | | |
| C57 | *C2 | R22 | F2 | | |
| C58 | *C3 | R23 | F2 | | |
| C59 | *C2 | R24 | D2 | | |
| C60 | *B2 | R25 | D2 | | |
| C61 | *C2 | R26 | D2 | | |
| C62 | C3 | R27 | D2 | | |
| C63 | *C3 | R28 | D2 | | |
| C64 | C2 | R29 | E2 | | |
| C65 | *B3 | R30 | E1 | | |
| C66 | B2 | R31 | E1 | | |
| C67 | B2 | R32 | F1 | | |
| C68 | *B3 | R33 | E1 | | |
| C69 | B2 | R34 | F2 | | |
| C70 | B2 | R35 | E1 | | |
| C71 | A2 | R36 | E2 | | |
| C72 | *A2 | R37 | F2 | | |
| C73 | *B2 | R38 | *G3 | | |
| C74 | *B2 | R39 | *G3 | | |
| C75 | B3 | R40 | *G3 | | |
| C76 | *B3 | R41 | E2 | | |
| C77 | A2 | R42 | F2 | | |
| C78 | *A1 | R43 | F2 | | |
| C79 | *A2 | R44 | E2 | | |
| C80 | B2 | R45 | E2 | | |
| C81 | *B3 | R46 | F1 | | |
| C82 | *D2 | R47 | *D3 | | |
| C83 | *D1 | R48 | *D2 | | |
| C84 | *E2 | R49 | *D3 | | |
| C85 | *E2 | R50 | *F3 | | |
| C86 | *E2 | R51 | *C3 | | |
| C87 | *E2 | R52 | *C3 | | |
| C88 | *F2 | R53 | *C2 | | |
| C89 | F3 | R54 | *C2 | | |
| C90 | *F2 | R55 | *C2 | | |
| | | R56 | *C2 | | |




HKPF-E270

**DPR-115** -A SIDE-
SUFFIX: -11




**DPR-115** -B SIDE-
SUFFIX: -11

DPR-115 (1-669-676-11)

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C100 | *L5 | C323 | C8 | C529 | E6 | C817 | *J5 | C1301 | *D3 | C1573 | K2 | CL1412 | *D1 | IC800 | J6 | Q1501 | *K1 | R213 | D4 | R703 | M7 | R828 | H6 | R1215 | B4 | R1466 | E1 | R1586 | *J3 | TP800 | H6 |
| C101 | K5 | C324 | C8 | C530 | E6 | C818 | H5 | C1302 | *C3 | C1600 | F3 | CL1413 | *D1 | IC801 | J6 | Q1502 | *M4 | R214 | D4 | R704 | M6 | R829 | *H7 | R1216 | *C2 | R1467 | E3 | R1587 | *J3 | TP801 | H6 |
| C102 | *K5 | C325 | C8 | C531 | D7 | C819 | J5 | C1303 | *D3 | C1601 | *G3 | CL1414 | *D1 | IC802 | *J6 | Q1503 | *K3 | R215 | D4 | R705 | M6 | R830 | *H7 | R1217 | *B3 | R1468 | E3 | R1588 | K2 | TP900 | F5 |
| C103 | *K5 | C326 | C8 | C532 | D8 | C820 | H6 | C1400 | E4 | C1602 | G3 | CL1415 | *D2 | IC803 | H6 | Q1504 | *K1 | R216 | D4 | R706 | M6 | R831 | *H7 | R1218 | *B3 | R1469 | E1 | R1589 | *H3 | TP902 | G7 |
| C104 | *K5 | C327 | C8 | C533 | E8 | C821 | J7 | C1401 | E3 | C1603 | *J3 | CL1416 | *D2 | IC804 | J5 | Q1505 | *K1 | R217 | D4 | R707 | M7 | R832 | *J7 | R1219 | *C2 | R1470 | E1 | R1590 | *J2 | TP1000 | D2 |
| C105 | *K6 | C328 | C7 | C534 | F8 | C822 | J7 | C1402 | D3 | C1604 | *K3 | CL1417 | *D2 | IC805 | J5 | Q1506 | *K1 | R218 | D4 | R708 | M6 | R833 | *J7 | R1220 | B4 | R1471 | E1 | R1591 | *J2 | TP1001 | D2 |
| C106 | *K6 | C329 | C7 | C535 | F7 | C823 | H7 | C1403 | D1 | C1605 | *K3 | CL1418 | *E2 | IC806 | H5 | Q1507 | *K3 | R222 | E6 | R709 | M6 | R834 | H7 | R1221 | B4 | R1500 | *J4 | R1592 | *J3 | TP1200 | A4 |
| C107 | *L6 | C330 | C6 | C536 | F8 | C824 | *H7 | C1404 | E2 | C1606 | *J3 | CL1419 | *E2 | IC807 | H7 | Q1508 | *K2 | R223 | E6 | R710 | M6 | R900 | G6 | R1222 | C1 | R1501 | *J4 | R1593 | *K2 | TP1201 | B3 |
| C108 | *L6 | C331 | C6 | C700 | L7 | C825 | *J7 | C1405 | D3 | C1607 | H3 | CL1420 | *E1 | IC808 | H6 | Q1509 | *K2 | R224 | D5 | R711 | M6 | R901 | H6 | R1223 | B4 | R1502 | *M2 | R1594 | *K2 | TP1202 | B3 |
| C109 | L6 | C332 | B6 | C701 | *L7 | C826 | H6 | C1406 | D2 | C1608 | G3 | CL1421 | *E2 | IC809 | J7 | Q1510 | J2 | R300 | B6 | R712 | K7 | R902 | G6 | R1224 | B4 | R1503 | *J4 | R1595 | *J4 | TP1203 | B3 |
| C110 | L6 | C333 | B6 | C702 | L7 | C827 | *J7 | C1407 | D1 | C1609 | *G3 | CL1422 | *E1 | IC810 | J7 | Q1511 | *K2 | R301 | B6 | R713 | M6 | R903 | G6 | R1225 | C1 | R1504 | *K3 | R1596 | *J4 | TP1204 | A3 |
| C111 | *L6 | C334 | B7 | C703 | *L7 | C828 | *J7 | C1408 | E1 | C1610 | *G4 | CL1423 | *E2 | IC900 | *G6 | Q1512 | *H3 | R302 | B6 | R714 | M7 | R904 | G6 | R1226 | B4 | R1505 | *L3 | R1597 | *H4 | TP1205 | A2 |
| C112 | *L6 | C335 | B7 | C704 | L7 | C829 | J7 | C1409 | E2 | C1611 | *K3 | CL1424 | *D1 | IC901 | H6 | Q1513 | *K2 | R303 | B6 | R715 | K7 | R905 | G6 | R1227 | B4 | R1506 | L1 | R1598 | *J4 | TP1300 | D3 |
| C113 | L6 | C336 | B7 | C705 | *L7 | C830 | *H6 | C1410 | E3 | C1612 | K3 | CL1425 | *E1 | IC902 | *G6 | Q1514 | *K2 | R304 | B6 | R716 | K7 | R906 | G6 | R1228 | *B3 | R1507 | *K1 | R1599 | *K3 | TP1301 | D3 |
| C114 | *L5 | C337 | B7 | C706 | L6 | C831 | J7 | C1411 | D3 | C1613 | F4 | | | IC903 | *G5 | Q1515 | *K2 | R305 | C6 | R717 | K7 | R907 | G6 | R1229 | A2 | R1508 | *J1 | R1600 | *J2 | TP1400 | E4 |
| C115 | *L5 | C338 | B7 | C707 | *L7 | C832 | H7 | C1412 | D1 | | | CN1 | M2 | IC1000 | G7 | Q1516 | *J3 | R306 | C6 | R718 | M6 | R908 | G6 | R1230 | A2 | R1509 | *J1 | R1601 | F3 | TP1401 | E4 |
| C116 | *M5 | C339 | B8 | C708 | *L6 | C833 | *J7 | C1413 | E1 | CL200 | *F5 | CN2 | M6 | IC1003 | F6 | Q1517 | *K3 | R307 | C6 | R719 | M7 | R909 | G7 | R1231 | A3 | R1510 | K1 | R1602 | F3 | TP1402 | E3 |
| C117 | *M6 | C340 | B8 | C709 | L6 | C834 | *H6 | C1414 | E1 | CL201 | *F5 | CN3 | C1 | IC1004 | F6 | Q1518 | *K3 | R308 | B6 | R720 | K7 | R911 | G6 | R1232 | A3 | R1511 | *L2 | R1603 | *G3 | TP1403 | E4 |
| C118 | *M5 | C341 | B8 | C710 | L6 | C835 | H7 | C1415 | E4 | CL300 | *C8 | CN5 | M8 | IC1005 | G5 | Q1600 | *K3 | R309 | C6 | R721 | K7 | R912 | G5 | R1233 | B3 | R1512 | *M2 | R1604 | L4 | TP1500 | M2 |
| C119 | *M5 | C342 | C8 | C711 | *L6 | C836 | J6 | C1500 | *J3 | CL301 | *C8 | CN6 | E3 | IC1100 | H7 | Q1601 | *G3 | R310 | B7 | R722 | L7 | R913 | G5 | R1234 | A3 | R1513 | *L2 | R1605 | *K3 | TP1501 | G1 |
| C120 | *L5 | C400 | B5 | C712 | M7 | C837 | J6 | C1501 | L3 | CL302 | *C8 | | | IC1101 | G7 | Q1602 | *K3 | R311 | B7 | R723 | M6 | R914 | G5 | R1235 | B3 | R1514 | *J3 | R1606 | *J3 | TP1502 | M2 |
| C121 | *L5 | C401 | B5 | C713 | M7 | C838 | H6 | C1502 | M3 | CL303 | *C8 | D700 | *K8 | IC1102 | G7 | Q1603 | *K3 | R312 | C8 | R724 | K7 | R915 | G5 | R1236 | A3 | R1515 | *L4 | R1607 | *J3 | TP1503 | F2 |
| C122 | M5 | C402 | A6 | C714 | M7 | C839 | H7 | C1503 | *M3 | CL304 | *C8 | D1300 | A2 | IC1103 | *H7 | | | R313 | B6 | R725 | L7 | R916 | G5 | R1237 | *M3 | R1516 | *L1 | R1608 | K3 | TP1504 | F2 |
| C123 | M6 | C403 | A5 | C715 | M7 | C840 | J7 | C1504 | *K3 | CL305 | *C6 | D1301 | A2 | IC1104 | G7 | R100 | *L5 | R314 | B7 | R726 | K7 | R917 | G5 | R1238 | M2 | R1517 | *J1 | R1609 | *G3 | TP1505 | F3 |
| C124 | M5 | C404 | A5 | C716 | M7 | C841 | J6 | C1505 | *M3 | CL400 | *C5 | D1302 | A2 | IC1105 | H5 | R101 | *L5 | R315 | C6 | R727 | M8 | R918 | H6 | R1239 | M2 | R1518 | *J1 | R1610 | *J3 | TP1506 | G2 |
| C125 | *L5 | C405 | A5 | C717 | M7 | C842 | J7 | C1506 | *L4 | CL401 | *C6 | D1303 | A3 | IC1106 | G5 | R102 | *L5 | R400 | B4 | R728 | M8 | R919 | H5 | R1240 | M2 | R1519 | *J3 | R1611 | *J3 | TP1600 | G3 |
| C126 | *L5 | C406 | B4 | C718 | M7 | C847 | H8 | C1507 | L4 | CL402 | *C5 | D1304 | A3 | IC1200 | B1 | R103 | *L5 | R401 | B4 | R729 | M8 | R920 | H5 | R1400 | E4 | R1520 | *K1 | R1612 | *G4 | | |
| C127 | M6 | C407 | B4 | C719 | L7 | C850 | J5 | C1508 | K3 | CL403 | *C6 | D1305 | A3 | IC1201 | *C4 | R104 | *L5 | R402 | B4 | R730 | L6 | R1000 | F7 | R1401 | F3 | R1521 | *K1 | R1613 | *K3 | X700 | K7 |
| C128 | M5 | C408 | A5 | C720 | L7 | C853 | J8 | C1509 | *J1 | CL404 | *C5 | D1500 | M2 | IC1202 | B1 | R105 | *L5 | R403 | B4 | R731 | K7 | R1001 | F7 | R1402 | F3 | R1522 | *K4 | R1614 | *K3 | X701 | K8 |
| C129 | M5 | C409 | A4 | C721 | L7 | C854 | J5 | C1510 | M4 | CL405 | *C5 | D1501 | *J1 | IC1203 | B1 | R106 | *L5 | R404 | B4 | R732 | K7 | R1002 | F7 | R1403 | D3 | R1523 | *J4 | R1615 | *G4 | X1100 | G8 |
| C130 | M5 | C410 | A4 | C722 | *L6 | C857 | J6 | C1511 | *K1 | CL500 | *F7 | D1502 | A2 | IC1204 | B2 | R107 | *L5 | R405 | C4 | R733 | K7 | R1003 | F7 | R1404 | E4 | R1524 | *K4 | R1616 | *G4 | X1101 | H8 |
| C131 | M5 | C411 | A4 | C723 | L6 | C858 | H5 | C1512 | *K1 | CL700 | *J7 | D1503 | *J1 | IC1205 | C3 | R108 | K6 | R406 | C4 | R734 | M7 | R1004 | F7 | R1405 | F3 | R1525 | *K3 | R1617 | *G4 | X1102 | H4 |
| C132 | M5 | C412 | B5 | C724 | L6 | C900 | G6 | C1513 | *J1 | CL701 | *J7 | D1504 | M1 | IC1206 | B1 | R109 | J6 | R407 | C4 | R735 | M7 | R1005 | F7 | R1406 | F3 | R1526 | *K4 | R1618 | *G3 | X1103 | G4 |
| C133 | M5 | C413 | C5 | C725 | *L6 | C901 | G5 | C1514 | H1 | CL702 | *K7 | D1505 | *J2 | IC1207 | A2 | R110 | K6 | R408 | B5 | R736 | M8 | R1006 | F7 | R1407 | D3 | R1527 | *K1 | R1619 | *K3 | X1200 | A2 |
| C134 | *L5 | C414 | C5 | C726 | J7 | C902 | G6 | C1515 | G1 | CL703 | *K7 | D1506 | *J1 | IC1208 | *B4 | R111 | J6 | R409 | B5 | R737 | M8 | R1007 | F7 | R1408 | E4 | R1528 | *J1 | R1620 | *J3 | | |
| C135 | *L5 | C415 | C5 | C727 | M6 | C903 | G6 | C1516 | *G1 | CL704 | *K7 | D1507 | *J2 | IC1209 | B3 | R112 | K6 | R410 | B4 | R738 | M8 | R1012 | F6 | R1409 | F3 | R1529 | *K4 | R1621 | F4 | *: B SIDE | |
| C136 | *L5 | C416 | C4 | C728 | K8 | C904 | H6 | C1517 | *J4 | CL705 | *J6 | D1508 | *J2 | IC1210 | C1 | R113 | J6 | R411 | C6 | R739 | M8 | R1013 | F6 | R1410 | F3 | R1530 | *K4 | R1622 | *J3 | | |
| C137 | *L5 | C417 | C4 | C729 | K8 | C905 | H5 | C1518 | *K4 | CL706 | *J6 | D1509 | *J3 | IC1211 | A3 | R114 | K6 | R412 | B5 | R740 | M7 | R1018 | F5 | R1411 | E3 | R1531 | L2 | R1623 | L2 | | |
| C138 | L5 | C418 | C4 | C730 | K8 | C906 | H5 | C1519 | *K1 | CL707 | *J7 | D1510 | *J2 | IC1300 | D3 | R115 | J6 | R413 | C4 | R741 | M7 | R1019 | F5 | R1412 | E4 | R1532 | *K1 | | | | |
| C139 | *L5 | C419 | B5 | C731 | K7 | C907 | H6 | C1520 | K1 | CL708 | *K7 | D1600 | *J3 | IC1301 | *D4 | R116 | K6 | R500 | E6 | R742 | *J7 | R1020 | F5 | R1413 | F3 | R1533 | *L3 | RB1200 | B1 | | |
| C140 | L5 | C420 | B5 | C732 | K7 | C908 | G6 | C1521 | *L1 | CL709 | *J7 | D1601 | *J3 | IC1302 | D3 | R117 | J6 | R501 | F6 | R743 | J7 | R1021 | F5 | R1414 | F3 | R1534 | K1 | RB1201 | *C3 | | |
| C141 | *L5 | C421 | B5 | C733 | K7 | C909 | H5 | C1522 | L1 | CL710 | *J7 | | | IC1400 | E3 | R118 | K5 | R502 | E6 | R744 | M7 | R1022 | F5 | R1415 | E3 | R1535 | *J2 | RB1202 | *C3 | | |
| C142 | *L5 | C422 | C6 | C734 | K6 | C910 | G5 | C1523 | M1 | CL711 | *K7 | E100 | M6 | IC1401 | *E4 | R119 | J5 | R503 | F6 | R745 | J8 | R1023 | F6 | R1416 | E3 | R1536 | *J2 | RB1203 | B3 | | |
| C143 | K4 | C423 | C6 | C735 | K6 | C911 | G6 | C1524 | *L3 | CL900 | *G6 | E200 | C4 | IC1402 | D2 | R120 | K5 | R504 | E6 | R746 | K8 | R1024 | F5 | R1417 | E3 | R1537 | *K3 | RB1204 | *C2 | | |
| C144 | J4 | C424 | C6 | C736 | J7 | C912 | H5 | C1525 | K3 | CL901 | *G6 | E300 | B8 | IC1403 | *D2 | R121 | J5 | R505 | F6 | R747 | K8 | R1025 | F5 | R1418 | E4 | R1538 | *J1 | RB1205 | A1 | | |
| C145 | K5 | C425 | C6 | C737 | K8 | C913 | G6 | C1526 | *J2 | CL902 | *G6 | E500 | F8 | IC1404 | D1 | R122 | K5 | R506 | E6 | R748 | J8 | R1026 | F5 | R1419 | E2 | R1539 | *J1 | RB1206 | B1 | | |
| C200 | F5 | C426 | C6 | C738 | K7 | C1000 | F7 | C1527 | *K2 | CL903 | *H6 | E700 | J7 | IC1405 | E1 | R123 | J5 | R507 | F6 | R749 | K8 | R1100 | *H7 | R1420 | E2 | R1540 | *J1 | RB1207 | A1 | | |
| C201 | F5 | C427 | C5 | C739 | K6 | C1002 | F6 | C1528 | *K1 | CL904 | *H6 | E800 | H7 | IC1406 | E3 | R124 | K5 | R508 | E6 | R750 | K8 | R1101 | *H7 | R1421 | E2 | R1541 | *K3 | RB1208 | *B2 | | |
| C202 | E4 | C428 | C5 | C740 | J7 | C1003 | F6 | C1529 | K4 | CL905 | *H6 | E1100 | G4 | IC1500 | K1 | R125 | *M6 | R509 | F6 | R751 | K8 | R1102 | H6 | R1422 | E4 | R1542 | *K3 | RB1209 | *C2 | | |
| C203 | E4 | C429 | C4 | C741 | J7 | C1004 | F5 | C1530 | *J3 | CL906 | *H6 | E1101 | G8 | IC1501 | K4 | R126 | J5 | R510 | E6 | R752 | K8 | R1103 | H7 | R1423 | E3 | R1543 | *K1 | RB1300 | *C4 | | |
| C204 | E4 | C430 | C4 | C742 | J7 | C1005 | F5 | C1531 | *K4 | CL907 | *G6 | E1200 | A1 | IC1502 | K2 | R127 | *L5 | R511 | F6 | R753 | K8 | R1104 | H7 | R1424 | E2 | R1544 | *K1 | RB1301 | *C4 | | |
| C205 | D5 | C431 | C4 | C743 | J7 | C1100 | *G7 | C1532 | *J1 | CL908 | *G6 | E1400 | D1 | IC1503 | K2 | R128 | K5 | R512 | E6 | R754 | K7 | R1105 | H6 | R1425 | E2 | R1545 | *K4 | RB1302 | C3 | | |
| C206 | D5 | C432 | C4 | C744 | K6 | C1101 | H7 | C1533 | *F1 | CL909 | *G6 | E1500 | M4 | IC1504 | J4 | R129 | J5 | R513 | F6 | R755 | K8 | R1106 | G7 | R1426 | E4 | R1546 | *K2 | RB1303 | C3 | | |
| C207 | D5 | C433 | B4 | C745 | M7 | C1102 | G8 | C1534 | *K4 | CL910 | *G6 | E1501 | G3 | IC1505 | F3 | R130 | M5 | R514 | E6 | R756 | L7 | R1107 | *F8 | R1427 | E4 | R1547 | *K4 | RB1304 | *D3 | | |
| C208 | E6 | C434 | B4 | C746 | M7 | C1103 | *G8 | C1535 | *K2 | CL911 | *G6 | E1502 | G3 | IC1506 | K2 | R131 | M5 | R515 | F6 | R757 | K8 | R1108 | G7 | R1428 | E2 | R1548 | *L4 | | | | |
| C209 | E6 | C435 | B5 | C747 | M7 | C1104 | G7 | C1536 | K1 | CL912 | *H6 | E1503 | F2 | IC1600 | K3 | R132 | J5 | R516 | E6 | R758 | J6 | R1109 | G7 | R1429 | D4 | R1549 | J2 | RV700 | M8 | | |
| C210 | E6 | C436 | B5 | C748 | M8 | C1105 | *H7 | C1537 | *G1 | CL913 | *H6 | E1504 | F1 | IC1601 | G4 | R133 | M5 | R517 | F6 | R759 | K8 | R1110 | H7 | R1430 | E2 | R1550 | *K4 | RV1100 | H7 | | |
| C211 | F5 | C437 | B5 | C749 | J7 | C1106 | H7 | C1538 | F1 | CL914 | *H6 | E1505 | G1 | | | R134 | M5 | R518 | E6 | R760 | L8 | R1111 | H7 | R1431 | E2 | R1551 | *L4 | RV1101 | H7 | | |
| C212 | F5 | C438 | B5 | C750 | M8 | C1107 | G7 | C1539 | G1 | CL915 | *G6 | E1506 | M2 | L700 | L7 | R135 | J5 | R519 | F6 | R761 | J6 | R1112 | G7 | R1432 | E2 | R1552 | J2 | | | | |
| C213 | F5 | C439 | B5 | C751 | J8 | C1108 | H8 | C1540 | *L4 | CL916 | *G6 | | | L701 | L8 | R136 | J5 | R520 | F6 | R762 | K8 | R1113 | H7 | R1433 | E2 | R1553 | J2 | S1200 | A3 | | |
| C214 | E6 | C440 | B6 | C752 | K7 | C1109 | *H8 | C1541 | *H4 | CL917 | *G6 | F1500 | M2 | L800 | *J6 | R137 | K5 | R521 | F6 | R763 | K8 | R1114 | G7 | R1434 | E2 | R1554 | *G4 | S1300 | A4 | | |
| C215 | F4 | C441 | B6 | C753 | K8 | C1110 | H7 | C1542 | *H3 | CL918 | *G6 | F1501 | M2 | L801 | J7 | R138 | K5 | R522 | D8 | R764 | K8 | R1115 | H7 | R1435 | E2 | R1555 | *H4 | S1301 | A7 | | |
| C216 | E4 | C442 | C6 | C754 | K8 | C1111 | H4 | C1543 | *F3 | CL919 | *H5 | | | L802 | J8 | R139 | K5 | R523 | D8 | R765 | K8 | R1116 | *G8 | R1436 | E1 | R1556 | *H4 | S1302 | A4 | | |
| C217 | D4 | C500 | F7 | C755 | J8 | C1112 | *H4 | C1544 | H3 | CL920 | *G6 | FB700 | *M7 | L805 | J8 | R140 | K5 | R524 | D8 | R766 | L8 | R1117 | *H5 | R1437 | E1 | R1557 | *H3 | S1303 | A6 | | |
| C218 | D5 | C501 | F7 | C756 | J8 | C1113 | F4 | C1545 | *J2 | CL921 | *G6 | FB701 | *M7 | L900 | J5 | R141 | K5 | R525 | D8 | R800 | *J5 | R1118 | *H5 | R1438 | E1 | R1558 | L2 | | | | |
| C219 | E6 | C502 | E6 | C757 | L7 | C1114 | G4 | C1546 | F3 | CL922 | *G6 | | | L1100 | F4 | R142 | M5 | R526 | D8 | R801 | *J6 | R1119 | G5 | R1439 | E1 | R1559 | *F3 | TH1500 | K1 | | |
| C220 | F5 | C503 | E6 | C758 | K8 | C1115 | H7 | C1547 | *F3 | CL1000 | *F5 | IC100 | K5 | L1101 | G4 | R143 | M5 | R527 | D8 | R802 | *J6 | R1120 | H5 | R1440 | E1 | R1560 | *H3 | TH1501 | K1 | | |
| C221 | F5 | C504 | E6 | C759 | K8 | C1116 | *H5 | C1548 | *K2 | CL1100 | *G5 | IC101 | L5 | L1500 | L2 | R144 | K5 | R528 | D8 | R803 | *J6 | R1121 | H5 | R1441 | D1 | R1561 | *K2 | TH1502 | K2 | | |
| C222 | F6 | C505 | D7 | C760 | L8 | C1117 | *H5 | C1549 | *K2 | CL1101 | *G5 | IC102 | M5 | L1501 | L3 | R145 | M5 | R529 | D7 | R804 | *J6 | R1122 | *H5 | R1442 | E3 | R1562 | K2 | TH1503 | K2 | | |
| C300 | B7 | C506 | D7 | C761 | L8 | C1118 | H7 | C1550 | J4 | CL1208 | *B4 | IC103 | M5 | L1502 | J1 | R146 | M5 | R530 | D7 | R805 | *J6 | R1123 | H5 | R1443 | E1 | R1563 | *J2 | TH1600 | K3 | | |
| C301 | B6 | C507 | D7 | C762 | K8 | C1119 | G4 | C1551 | *J2 | CL1209 | *B3 | IC104 | K5 | L1503 | H1 | R147 | *L5 | R531 | D7 | R806 | *J5 | R1124 | *H5 | R1444 | E1 | R1564 | *J2 | | | | |
| C302 | B7 | C508 | E8 | C763 | K8 | C1120 | G5 | C1552 | G2 | CL1210 | *B4 | IC105 | J5 | L1504 | L1 | R148 | *L5 | R532 | D7 | R807 | *J6 | R1125 | *H5 | R1445 | E3 | R1565 | *F3 | TP100 | K6 | | |
| C303 | A8 | C509 | E8 | C764 | L8 | C1121 | *G4 | C1553 | F2 | CL1211 | *A3 | IC106 | *K5 | L1505 | G1 | R149 | *L5 | R533 | D7 | R808 | *J5 | R1126 | G5 | R1446 | E1 | R1566 | *H3 | TP200 | E4 | | |
| C304 | A7 | C510 | E8 | C765 | K8 | C1122 | H5 | C1554 | *F2 | CL1212 | *A3 | IC200 | E5 | L1506 | J1 | R150 | K4 | R534 | D7 | R809 | J6 | R1127 | G5 | R1447 | D1 | R1567 | *J2 | TP201 | F4 | | |
| C305 | A7 | C511 | F7 | C766 | K8 | C1123 | *H5 | C1555 | *H4 | CL1300 | *C4 | IC300 | C7 | L1507 | L2 | R151 | K4 | R535 | D7 | R810 | J6 | R1128 | *H4 | R1448 | E3 | R1568 | *J2 | TP202 | E4 | | |
| C306 | A7 | C512 | F7 | C800 | J6 | C1124 | H5 | C1556 | G2 | CL1301 | *D3 | IC301 | A7 | L1508 | G2 | R152 | K4 | R536 | D7 | R811 | *J5 | R1129 | G5 | R1449 | D1 | R1569 | *H3 | TP203 | D4 | | |
| C307 | B6 | C513 | F7 | C801 | J5 | C1125 | *G5 | C1557 | *K2 | CL1302 | *D3 | IC302 | A6 | L1509 | H2 | R153 | J4 | R537 | D7 | R812 | *J5 | R1130 | G5 | R1450 | D1 | R1570 | *K2 | TP204 | F4 | | |
| C308 | A7 | C514 | E6 | C802 | J6 | C1200 | C4 | C1558 | K2 | CL1303 | *D3 | IC400 | C5 | L1510 | J2 | R154 | J4 | R538 | D7 | R813 | *H5 | R1200 | *B1 | R1451 | D1 | R1571 | *K2 | TP300 | B7 | | |
| C309 | A6 | C515 | E6 | C803 | *J6 | C1201 | C2 | C1559 | *H4 | CL1304 | *D3 | IC401 | A5 | L1511 | H2 | R155 | J4 | R539 | D7 | R814 | *H5 | R1201 | *B1 | R1452 | E3 | R1572 | *J2 | TP301 | C6 | | |
| C310 | A6 | C516 | E6 | C804 | J6 | C1202 | *C2 | C1560 | *J3 | CL1305 | *D3 | IC402 | A4 | L1600 | J3 | R156 | J4 | R540 | D7 | R815 | *H6 | R1202 | B4 | R1453 | D1 | R1573 | *H4 | TP302 | C6 | | |
| C311 | A6 | C517 | E6 | C805 | J5 | C1203 | *B2 | C1561 | H3 | CL1306 | *D3 | IC500 | E6 | L1601 | H3 | R157 | J4 | R541 | D6 | R816 | *H6 | R1203 | *B1 | R1454 | D1 | R1574 | *H4 | TP303 | B8 | | |
| C312 | B7 | C518 | F6 | C806 | *J6 | C1204 | *C3 | C1562 | J3 | CL1307 | *D3 | IC501 | F6 | | | R200 | D5 | R542 | D6 | R817 | *J7 | R1204 | B4 | R1455 | E1 | R1575 | *H4 | TP400 | B4 | | |
| C313 | C7 | C519 | E6 | C807 | *J6 | C1205 | *B1 | C1563 | *J3 | CL1308 | *D3 | IC502 | E7 | Q800 | *J6 | R201 | D5 | R543 | E6 | R818 | *J7 | R1205 | B4 | R1456 | E3 | R1576 | J4 | TP401 | C4 | | |
| C314 | C7 | C520 | F6 | C808 | *J6 | C1206 | *B2 | C1564 | H3 | CL1400 | *E3 | IC503 | D7 | Q801 | *J6 | R203 | D5 | R544 | F6 | R819 | *J7 | R1206 | B3 | R1457 | E3 | R1577 | J4 | TP402 | C4 | | |
| C315 | C7 | C521 | F6 | C809 | J6 | C1207 | B4 | C1565 | *K3 | CL1401 | *E4 | IC700 | M7 | Q802 | *J5 | R204 | D5 | R545 | E8 | R820 | H7 | R1207 | B3 | R1458 | E1 | R1578 | J4 | TP403 | C6 | | |
| C316 | C6 | C522 | D7 | C810 | J6 | C1208 | *B3 | C1566 | *K2 | CL1402 | *E3 | IC701 | L7 | Q803 | *J7 | R205 | D5 | R546 | E8 | R821 | *J7 | R1208 | B3 | R1459 | D3 | R1579 | *K2 | TP500 | D5 | | |
| C317 | C6 | C523 | D8 | C811 | H7 | C1209 | *B3 | C1567 | *J2 | CL1403 | *E3 | IC702 | K7 | Q804 | *H7 | R206 | D5 | R547 | E8 | R822 | *J7 | R1209 | B3 | R1460 | D3 | R1580 | *H4 | TP501 | D6 | | |
| C318 | C6 | C524 | D8 | C812 | J6 | C1210 | A3 | C1568 | H2 | CL1404 | *D3 | IC703 | J8 | Q805 | *J7 | R207 | D5 | R548 | E8 | R823 | *H6 | R1210 | B4 | R1461 | E1 | R1581 | *H4 | TP700 | L6 | | |
| C319 | B7 | C525 | D8 | C813 | J5 | C1211 | *B3 | C1569 | G2 | CL1405 | *E4 | IC704 | K8 | Q806 | *J7 | R208 | D5 | R549 | E8 | R824 | *J7 | R1211 | B4 | R1462 | E3 | R1582 | *H4 | TP701 | M6 | | |
| C320 | B7 | C526 | D7 | C814 | *J5 | C1212 | *C1 | C1570 | *G2 | CL1406 | *E4 | IC705 | *L8 | Q1100 | *G8 | R209 | D5 | R700 | M6 | R825 | *H6 | R1212 | M3 | R1463 | E3 | R1583 | *J3 | TP702 | K6 | | |
| C321 | B7 | C527 | D7 | C815 | *H5 | C1213 | A3 | C1571 | *J4 | CL1407 | *D4 | IC706 | K8 | Q1101 | *H8 | R210 | D5 | R701 | M6 | R826 | *H7 | R1213 | M3 | R1464 | E3 | R1584 | L3 | TP703 | K6 | | |
| C322 | C8 | C528 | E8 | C816 | *H5 | C1300 | *D3 | C1572 | *K2 | CL1411 | *E1 | IC707 | F6 | Q1500 | *L3 | R212 | D5 | R702 | M6 | R827 | H7 | R1214 | B4 | R1465 | E3 | R1585 | *K2 | TP704 | L7 | | |

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